Journal of Combinatorial Mathematics
and Combinatorial Computing
www.combinatorialpress.com/jcmcc

Building a Co-construction and Sharing Model of Digital Ideological and Political Resources for Embedded Courses Based on Artificial Intelligence Algorithms

Yan Li[1], Yu Yang[2,✉]

[1] *School of Marxism, Shaanxi Vocational & Technical College, Xi'an, Shaanxi, 710038, China*

[2] *School of Management, Wuhan Donghu University, Wuhan, Hubei, 430212, China*

ABSTRACT

At present, there are differences in the building of information in various career institutions. The degree of implementation of management, teaching and services is uneven, and educational resources are limited and unevenly distributed. The construction of educational resources includes the overall layout, structure and quantity of resources, information mode, service impact, etc, all of which require systematic planning. Under the above background, this paper conducted research on the topic of building a model of co-construction and sharing of digital ideological and political resources for embedded courses based on artificial intelligence algorithms, and considered the insufficiency of the existing digital ideological and political resources in the allocation efficiency and insufficient system sharing, as well as creatively used artificial intelligence algorithms to improve the previous system. In the algorithm, the texture mapping of the system was carried out, and the duty cycle of each columnar area was specified. In the experiment, the number of resources in the digital resource platform was investigated, and the input of different types of colleges and universities in digital ideological and political resources was collected. The explanation of experimental data: 83% of 985/211 colleges and universities used the database designed in this paper, and 17% of them actively built the database; 57% of the general undergraduate schools used the database designed in this paper, and 20% were under construction, as well as 13% were still preparing. This showed that in general undergraduate schools, a small proportion of the digital ideological and political resource sharing model was used, and the 985/211 colleges and universities had relatively good investment in the construction of digital ideological and political resources.

Keywords: Artificial Intelligence, Embedded Courses, Digital Ideological and Political Resources, Co-construction and Sharing Model

✉ Corresponding author.
E-mail address: yy123_dhxy2024@163.com (Y. Yang).

Received 30 May 2024; Revised 15 August 2024; Accepted 10 January 2025; Published Online 16 April 2025.
DOI: 10.61091/jcmcc127b-115

1. Introduction

Since the launch of the digital education resource construction project, great achievements have been made in curriculum construction, but the promotion and allocation of curriculum resources is not optimistic. Through building and scaling digits ideological and political resources, learning resources are enriched and optimized. The promotion of the sharing and implementation of learning resources is an effective way to enhance sustainable development. Higher education is being popularized in an all-round way, so the cultivation of all kinds of practical and innovative talents needed by the society has become an important issue faced by the present teaching and instruction reform.

In the co-construction model of digital ideological and political resources, Xiao B believed that as China's industry grows, all segments of the economy had higher and higher requirements. The major function of higher education institutions is to train craftsmen-inspired workers to provide skilled personnel. He discussed the meaning of the worker's mind, and analyzed the need of effectively integrating and rationally infiltrating the worker's mind in the class of building [1]. Peng X reformed the theoretical and experimental teaching of the digital curriculum, and introduced the concept of three comprehensive educational methods in the classroom, as well as extracted the core information from each chapter. Based on core information, he combined core information with clinical problems, and provided inquiry-based teaching, as well as used experimental operations to cultivate students' attitudes to solve clinical problems through research. These teaching innovations improved the learning motivation of undergraduates. Zhan Y analyzed and discussed the factors affecting the ideological and political learning effect of university students. His point of view was that at present, under the influence of social environment, bad peer groups, network environment, and insufficient practical and participatory teaching, there were still problems such as weak effectiveness in ideological and political education in colleges and universities. The limitations of college students' social experience and the incompatibility of physical and mental development greatly affected the effect of ideological and political education in colleges and universities [2]. Peng X J deeply studied the context of the new-media. He believed that the appearance and growth of courses and network curriculum resources in business significantly diversified the way of presenting instruction in universities. Yet, for reasons such as imperfect intellectual and political course design, and the lack of dissemination and unpopularity, network courses in economics often did not embody the connotation of the courses well and could not maximally exert the ideological and political reform effect of the courses [3]. It can be seen that in the integration of traditional digital ideological and political resources, it is hard to achieve a co-construction and sharing model. In this context, it is necessary to introduce some system co-construction methods for system construction.

In the research of artificial intelligence algorithms, Zhang N believed that the Artificial Intelligence (AI) is one of the most promising science and technologies at present, which had powerful processing power in cognitive intelligence. Aiming at practical engineering problems such as the lack of accurate monitoring of terminal equipment status, imperfect fault diagnosis mechanism, and low accuracy in the current comprehensive energy operation and maintenance management and control, he proposed a comprehensive energy operation and maintenance management and control scheme based on machine learning. The operation and maintenance and fault diagnosis data were deeply excavated, and the relevant expert information of the service system was integrated, as well as the comprehensive service system was established [4]. Kim T thought about the development of artificial intelligence and the possibility of its application in the medical field. However, despite the clinical significance of the efficiency and safety of intubation in Endoscopic Retrograde Cholangiopancreatography (ERCP), there were few studies of AI-assisted endoscopy. He assisted endoscopists with ERCP by automatically detecting the ampulla and identifying intubation difficulties, and developed a novel artificial intelligence-assisted system based on convolutional

neural networks to predict the location of the ampulla and the difficulty of ampulla intubation, as well as evaluated his model using ERCP data from 531 patients [5]. Li B believed that the performance of Narrow Band Imaging (NBI) for screening early Esophageal Squamous Cell Carcinoma (ESCC) was significantly affected by operator experience, and artificial intelligence might be a unique way to compensate for operator inexperience. He built a Computer-Aided Detection (CAD) system for NBI to identify early ESCC. It was compared with a previously reported CAD system with endoscopic White Light Imaging (WLI) with the aim of examining the image imaging sharpness before and after using the system [6]. Na J Y wanted to compare the performance of Artificial Intelligence (AI) analysis with traditional analysis to identify risk factors associated with Symptomatic Patent Ductus Arteriosus (SPDA) in very low birth weight infants. He argued that although preterm infants with Patent Ductus Arteriosus (PDA) had many comorbidities and high mortality, treatment strategies varied by clinical setting and most studies of relevant risk factors were based on small populations. His study combined a large nationally registered database of risk factors with artificial intelligence technology to achieve higher accuracy and better performance of PDA [7].

In recent years, several computer systems with artificial intelligence have been built, which are capable of many applications with decent accuracy. It can save human resources, and people also allow the computer to realize some thinking and logic, so that the computer has some advanced human intelligence, such as environmental adaptation, automatic learning and automatic decision-making. With the rapid improvement of the economic level and the gradual implementation of the informatization strategy, the intelligence level of various industries in China has been continuously improved, and various artificial intelligence systems have been gradually installed. These systems have penetrated into every sector of society and every aspect of people's lives. This paper used artificial intelligence algorithms to construct an embedded curriculum digital ideological and political resources co-building and sharing model. The system constructed by the algorithm greatly shortened the data acquisition time and had good applicability.

2. Construction Method of Embedded Digital Ideological and Political Resource Sharing System

2.1. Reinforcement Learning

Reinforcement learning, also known as reinforcement learning [8], has good adaptability and learning ability. The action selection policy is refined based on environmental reward signals to adapt to the environment and is widely used in system control tasks [9]. The major question of supportive learning is to promote the action selection system using environmental reward markers for actions. Therefore, the selected actions can maximize the reward from the factors of the environment [10]. The support learning system is primarily made up of the following components [11], and the relationship between them is shown in Figure 1:

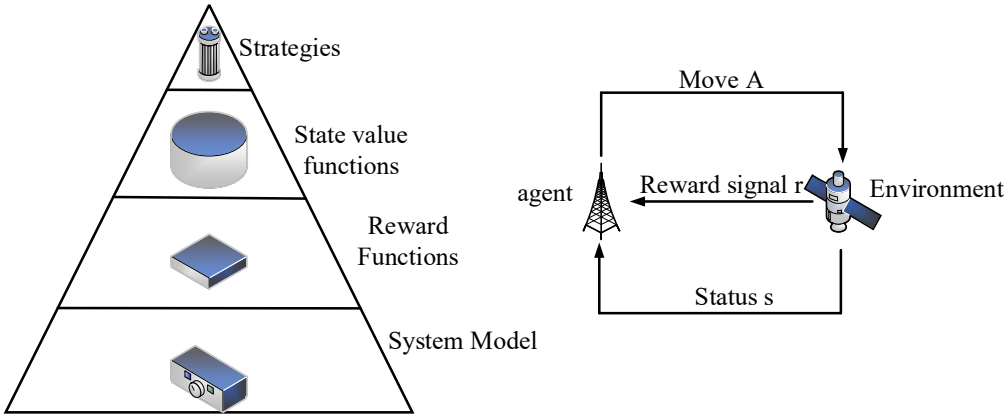

Fig. 1. Relationship between elements and model diagram

The decision process of supportive learning can be regarded as a Markov Decision Process (MDP) [12]. MDP is represented by four tuples <s, a, P, r>. Among them, s is the defined environmental condition; a is the action set; P is the probability of state transition; r is the reward function [13]. The state transition probabilities and reward values are independent of the learned policy and only depend on the current exploration policy [14]. The reinforcement learning algorithm has no specific state transition probability and reward function in the learning process, and it learns the optimal system policy through test and error [15].

2.2. Anomaly Detection of Hierarchical Temporal Memory (HTM) Learning Algorithms

HTM learns functions by receiving input data [16]. It does not need to treat a specific pattern as an introduction but perceives the raw data, and finds the pattern from the raw input data, as well as forms a representation of the pattern [17]. Each model in the system has a persistent structure [18-19], which allows it to be aware of persistence patterns. Each sensory input data has one or more spatial features of the pattern. The P-function can sense when the input data location is converted to a specific set of bit values by some fixed method. A learning node is the process of storing and associating common features of the input data. Therefore, when the input data is all run, it can sense the function of the input object. Taking into account which bit values in the input data are active each time, a ratio greater than the probability of random occurrence of the attribute is calculated. It is assumed that a node with N inputs has a fixed m number of inputs active each time it is in P-mode, it would determine whether the function has occurred by detecting whether constant values at the inputs are active at the same time, and the HTM layer and network structure are shown in Figure 2:

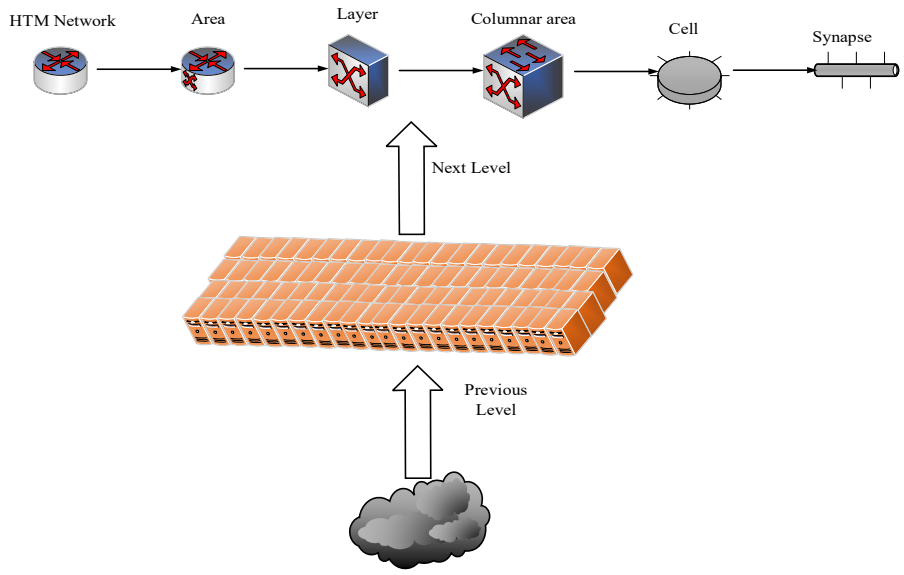

Fig. 2. HTM layers and network structure

The input data is first processed by the spatial sedimentation tank. At this point, all columns in the range would be used, and all range columns would be imported. To improve the utilization of pillar regions, the frequency of activity of each pillar region relative to the adjacent regions is recorded. If the relative activity of the area column is too low, the input activity level is increased until it becomes active, and such areas also maintain a certain density. A pillar area has the function of suppressing other pillar areas around it. The larger the receptive area of the column, the larger the suspension radius. Conversely, the smaller the acceptance area of a particular area in the sedimentation tank, the smaller the suspension radius. For each activity range column, the connectivity values for all possible synapses are adjusted. Active synapses increase connectivity values, while inactive synapses decrease connectivity values.

2.3. Texture Mapping of the System

The connection of texture maps is very important for texture maps. Whether the texture mapping function is suitable directly affects whether the texture on the object would be distorted, and the specific process is shown in Figure 3:

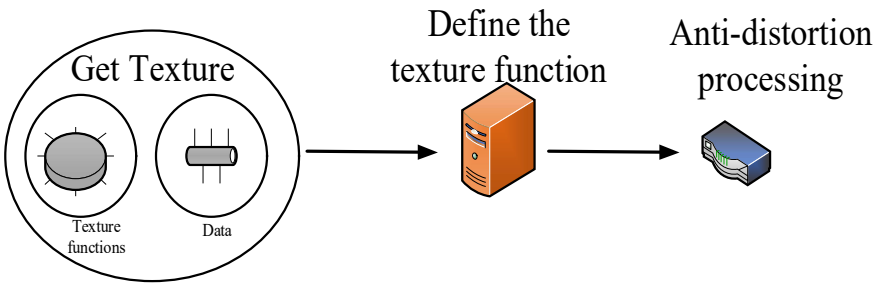

Fig. 3. Basic flow of texture mapping

The texture value of a certain point in the image is abstracted and given a one-to-one correspondence, which is specifically expressed as:

$$(u,v) = F(x,y,z) \tag{1}$$

In the formula, (u,v) is the pixel point coordinate and (x,y,z) is the object point coordinate. Q is set as the deflection vector, and the normal vector n is:

$$n = Q_u \times Q_v \tag{2}$$

The perturbation function is set to P, and the position vector of any point on the new surface is:

$$\tilde{Q}(u,v) = Q(u,v) + P(u,v)\frac{n}{|n|} \tag{3}$$

The normal vector $\tilde{n}$ is:

$$\tilde{n} = \tilde{Q}_u \times \tilde{Q}_v \tag{4}$$

Among them, the deflection vectors $\tilde{Q}_u$ and $\tilde{Q}_v$ are:

$$\tilde{Q}_u = Q_u + P_u\frac{n}{|n|} + P\frac{n_u}{|n|} \tag{5}$$

$$\tilde{Q}_v = Q_v + P_v\frac{n}{|n|} + P\frac{n_v}{|n|} \tag{6}$$

The normal vector $\tilde{n}$ after adding perturbation is:

$$\tilde{n} = Q_u \times Q_v + \frac{P_u(n \times Q_n)}{|n|} + \frac{P_v(n \times Q_v)}{|n|} + \frac{P_u P_v(n \times n)}{|n|} \tag{7}$$

By further simplification, the following formula can be obtained:

$$\tilde{n} = n + \frac{P_u(n \times Q_n)}{|n|} + \frac{P_v(n \times Q_v)}{|n|} \tag{8}$$

The algorithm is further simplified, and the search space for the solution of the problem is set to be D-dimensional. The total number of particles is N; the ith particle is represented by the vector P_I; the velocity is represented by v_I; the global optimal value is gBest; the position and velocity changes of each particle are:

$$V_{id}^{(t+1)} = V_{id}^t + c_1.rand().\left(pBest_{id}^t - V_{id}^t\right) + c_2.rand().\left(gBest - V_{id}^t\right) \tag{9}$$

$$X_{id}^{t+1} = X_{id}^t + V_{id}^t \tag{10}$$

The iterative process of each generation of particles can be expressed as:

$$kpBest_i^{t+1} = \begin{cases} pBest_i^t F\left(P_i^{t+1}\right) \geq (FBest)t \\ P_i^{t+1} F\left(P_i^{t+1}\right) < (FBest)t \end{cases} \tag{11}$$

The structure diagram of the client is shown in Figure 4:

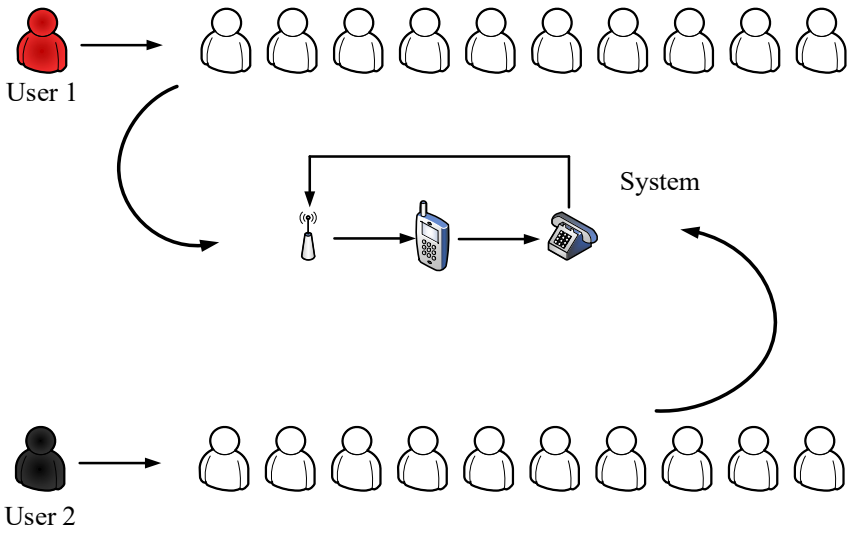

Fig. 4. Schematic diagram of client structure

In the space sedimentation tank, the higher the frequency, the easier it is to be promoted:

$$y = mx + b \tag{12}$$

$$boost = \left(1 - \max Boost\right) \min Duty * dutyCycle + \max FiringBoost \tag{13}$$

Finally, the working cycle of each columnar area is specified:

$$dutyCycle = \frac{\left(period - 1\right) * dutyCycle + newValue}{period} \tag{14}$$

In summary, the system is updated and ready to start the experiment.

2.4. Digital Resource Selection and Collection

At present, the number of digital resources is growing rapidly, and the types are also increasing, as well as the sales channels are also diversifying, which makes the supply channels of digital resources continue to expand. The difficulty of early "choice" in the construction of digital resources is also increasing. For most digital resource databases, it is not easy to select exactly what resources are needed based on existing conditions in the vast ocean of information. This is because to decide whether to choose, there must be a choice model first, and the establishment of the choice model must have its foundation. Therefore, it is necessary to develop policies for the selection and collection of digital resources. In a standard digital resource library, there are both imported and purchased digital resources, as well as self-made digital resources. Corresponding policies for the selection and collection of digital resources also reflect the diversity of means of collecting resources. At the same time, the digital resource library should also collect, classify and utilize the social digital information resources. According to its own advantages and characteristics, the collection is digitized, and the construction of digital resources is shown in Figure 5:

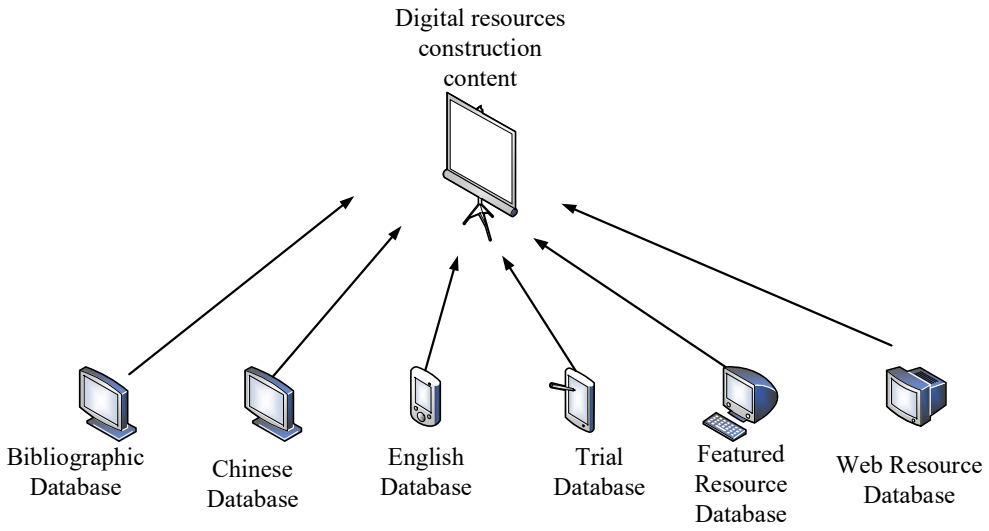

Fig. 5. Construction of digital resources

The digital resource platform has obvious characteristics of openness. Teachers need to develop a higher-quality digital resource platform based on the current teaching situation when choosing embedded materials in the integrated product library. The ideal digital resource platform is not only versatile but also powerful.

The digital resource platform is built to be convenient and should allow users to perform professional planning and other tasks. Teachers should easily and quickly select the corresponding built-in components to combine into teaching materials or let students find relevant built-in components for self-study according to their own needs, which does not require much professional computer operation skills. Therefore, the form of embedded material resources provided on the platform should conform to international standards, and there should be a unified resource interaction method or process. In this way, knowledge can be better combined and applied.

2.5. Evaluation Dimension of Digital Ideological and Political Resource Model

Through the evaluation system of ideological and political education resources, the co-construction and sharing of the content, process and quality achievements can be comprehensively judged. By checking and filling vacancies, key problems are found, and the precision of the assessment system is promoted, as well as more realistic variables are set, so as to make the evaluation more scientific. The evaluation system of co-construction and sharing can be initially constructed from two aspects: extension evaluation and content evaluation. The building blocks of the digital resource platform are shown in Figure 6:

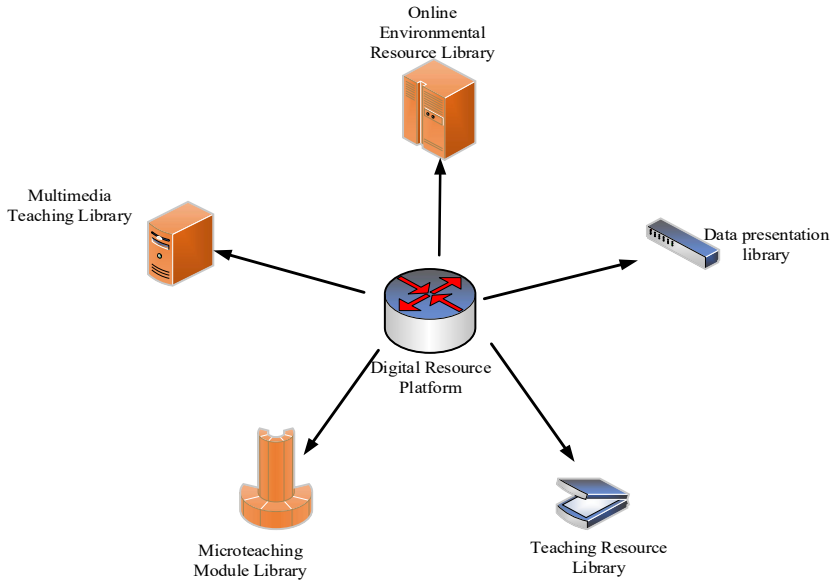

Fig. 6. Digital resource platform building blocks

The first is extensive assessment, which includes training and standardization. The content includes whether the education resources face the learning standards; whether it is easy for students to accept; whether it can play a positive guiding role for students; whether it can inspire students and prepare for the subsequent construction. The second is the content evaluation, which includes content knowledge and logical structure. As far as the content of education is concerned, knowledge must meet the needs of modern students for ideological and political education courses. Knowledge structure is a complete content with depth and breadth. According to the arrangement of the knowledge structure, it is convenient for students to check and fill in the blanks, and consolidate their learning for weak links, as well as jointly build and share educational resources closely related to the depth of education courses.

3. Investment and Experiment on the Use of Digital Resource Platforms

3.1. Number of Resources in the Digital Resource Platform

The scope of the survey is 32 provincial-level administrative regions. Due to the different specific environments and conditions, the hardware facilities are also different. Therefore, there is no unified standard for the evaluation of certain parameters. However, it is very close to the reality and can be used as a systematic analysis, as shown in Figure 7:

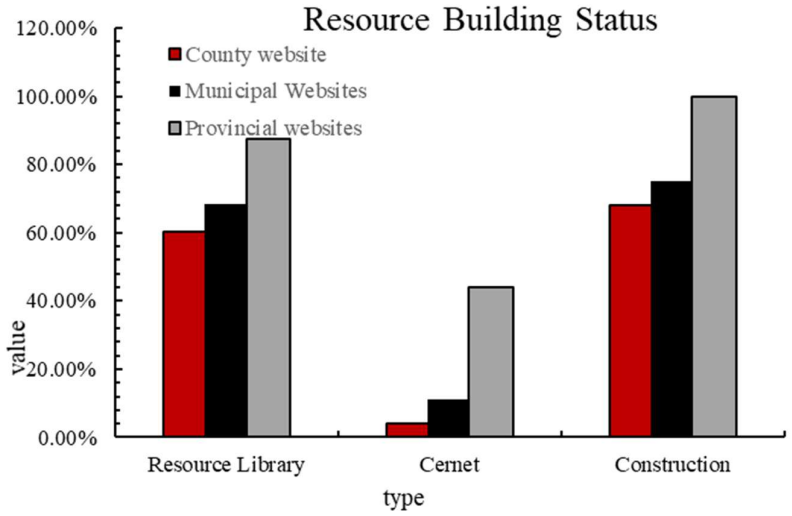

Fig. 7. Construction of websites and resources of educational information management institutions

It can be seen that the proportion of provincial institutions owning resource pools is 87.5%, of which 44% have access to Cernet. The proportion of municipal institutions owning the resource pool is 68.3%, of which 11% are involved in Cernet. 60.4% of county-level institutions own resource pools, of which only 4% have access to Cernet. It shows that the construction of the resource library is still a relatively big problem.

3.2. Investment of Different Types of Colleges and Universities in Digital Ideological and Political Resources

Taking a province as an example, a total of 10 985/211 colleges and universities are selected to conduct systematic practical application, which include 10 general undergraduate colleges and 10 higher vocational colleges. A follow-up survey was conducted after half a year, and the comparison between 985/211 universities and general undergraduates is shown in Figure 8:

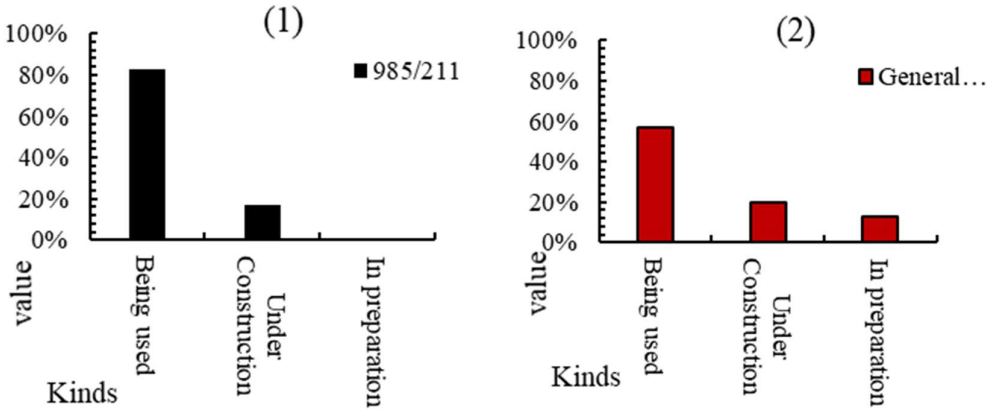

Fig. 8. 985/211 universities and general undergraduate ideological and political resources investment

Figure 8(1) is the situation of 985/211 institutions, and Figure 8(2) is the general undergraduate situation. It can be seen that 83% of 985/211 colleges and universities have used databases, and 17% are still building databases; 57% of the general undergraduate schools have used the database, and 20% are under construction, as well as 13% are still preparing. The proportion of digital ideological and political resource sharing models used in general undergraduate schools is relatively small. The general undergraduate and vocational colleges are compared, as shown in Figure 9:

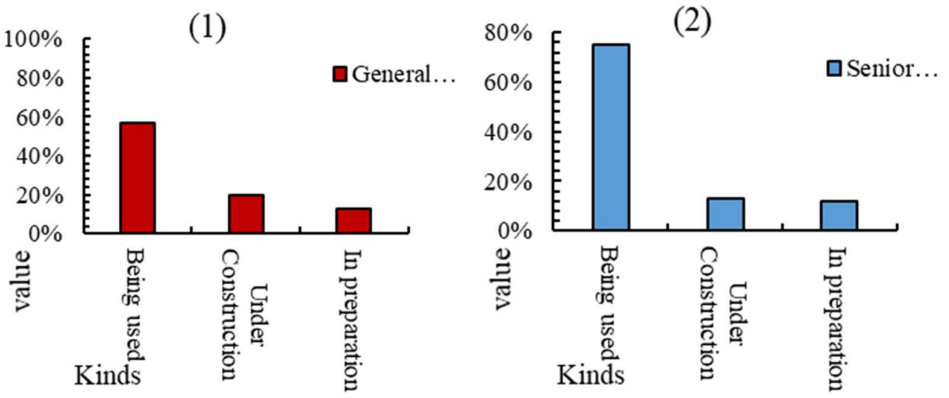

Fig. 9. General undergraduate and vocational college ideological and political resources input

Figure 9(1) is the general undergraduate situation, and Figure 9(2) is the situation of higher professional university. It shows that 57% of the general undergraduate schools have used the database, and 20% are under construction, as well as 13% are still preparing. 75% of vocational colleges have used databases, and 13% are under construction, as well as 12% are still preparing. It can be seen that compared with general undergraduates, vocational colleges have better investment in ideological and political resources.

3.3. Application Environment

Based on the above experiments, the questionnaire is designed. Statistical data are analyzed and collected using SPSS16.0 software, and variables V1 to V19 are set. The skewness and kurtosis values of teachers' co-construction and sharing mode of digital ideological and political resources are collected respectively, as shown in Table 1:

Table 1. Skewness and kurtosis

variable	Skewness value	Kurtosis	variable	Skewness value	Kurtosis
V1	-0.034	0.218	V11	-0.121	0.103
V2	-1.162	-0.012	V12	-0.036	1.214
V3	0.023	0.108	V13	-0.214	0.035
V4	0.045	0.386	V14	-1.021	1.012
V5	0.163	-2.024	V15	-1.136	0.156
V6	-0.038	-0.332	V16	-0.352	0.236
V7	0.052	0.134	V17	-0.421	0.1134
V8	-0.014	0.081	V18	-0.734	0.067
V9	-0.143	1.034	V19	-0.183	-0.024
V10	-0.104	0.235			

It can be seen that the bias and kurtosis values of the data are both approximately equal to 0. Among them, the maximum bias value is V5, and the value is 0.163. The minimum bias value is V2, and the value is -1.162. The maximum kurtosis value is V12 and the value is 1.214. The minimum kurtosis value is V5, and the value is -2.024. The conscious attitudes and abilities applying the system model are descriptive statistics, and 8 variables with numbers 1 to 8 are recorded, as well as their number of cases, minimum value, maximum value, mean deviation M, standard deviation SD and variance are counted, as shown in Table 2:

Table 2. Statistical description between variables

Subject	Number of	minimum	Maximum	M	SD	variance

	cases	value	value			
1	197	1	5	4.21	0.822	0.676
2	197	1	5	4.26	0.862	0.744
3	197	1	5	4.36	0.794	0.630
4	197	1	5	4.12	0.790	0.624
5	197	1	5	3.99	0.872	0.760
6	197	1	5	3.69	0.881	0.776
7	197	1	5	3.31	0.949	0.900
8	197	1	5	3.41	0.914	0835

It can be seen that the approval degrees for the 1st, 2nd and 3rd items are 4.21, 4.26 and 4.36, all of which are above 4.20. The recognition degree for item 4 is 4.12, which reaches a relatively satisfactory standard. It shows that teachers have a high degree of satisfaction with the system designed in this paper and have a positive attitude towards using it. The actual application environment of this system is investigated, and the selected variables are data transmission speed, networking situation, class experience and feedback after class, as shown in Table 3:

Table 3. Statistical description of practical application environment

Subject	Number of cases	minimum value	Maximum value	average value	standard deviation	variance
Transmission speed	197	1	5	3.66	0.974	0.948
Networking	197	1	5	3.64	1.210	1.465
User's experience	197	1	5	3.49	1.091	1.190
Feedback	197	1	5	2.96	0.994	0.988

The three items of data transmission speed, networking situation, and class experience are 3.66, 3.64, and 3.49, respectively. These are above the median 3, but fall short of the excellent standard of 4. The feedback after class does not reach 3, and the score is only 2.96. This shows that the system model designed in this paper should also be optimized and adjusted in the feedback after class. Applicability description, setting variables as sufficient resources, easy access, editable content, rich resource types, and timely updates are carried out. The description statistics of the applicability of digital ideological and political resources are shown in Table 4:

Table 4. Resource availability descriptive statistics

Subject	Number of cases	minimum value	Maximum value	average value	standard deviation	variance
Sufficient resources	197	1	5	3.51	0.967	0.935
Easy access	197	1	5	3.40	0.934	0.873
Content can be edited	197	1	5	3.04	0.955	0.912
Rich in resource types	197	1	5	3.79	0.876	0.768
Timely updates	197	1	5	3.31	0.943	0.888

It can be seen that the average value of these five indicators is more than 3 points. Among them, the resource adequacy score is 3.51; the easy access score is 3.40; the content editable score is 3.04; the resource type rich score is 3.79; the timely update score is 3.31. However, none of them can achieve excellent results, which shows that the system needs continuous improvement in these aspects. The resource application process is investigated, and the difficulty of resource acquisition is shown in Table 5:

Table 5. Difficulty in obtaining resources

	Frequency	Percentage	Effective percentage	Cumulative percentage
Very convenient	20	10.2	10.2	10.2
More convenient	88	44.7	44.7	54.8
General	64	32.5	32.5	87.3
Inconvenience	19	9.6	9.6	97.0
Very inconvenient	6	3.0	3.0	100.0
Total	197	100.0	100.0	

As shown in the table, there are 20 people who think it is very convenient, and 88 people who are more convenient, as well as 64 people in general, which is a total of 172 people. There are 19 people who think it is inconvenient and 6 people who think it is very inconvenient, and the total number is 25. It shows that some teachers still find it difficult to obtain the resources needed for teaching. Subsequent research should simplify the system's "fool-like" operation interface, and strengthen the promotion and use instructions.

4. Comprehensive Evaluation of Ideological and Political Resource System Based on Artificial Intelligence

4.1. Network Function Virtualization (NFV) system

As a virtual network, it provides services to users. The hardware facilities required to realize the system are relatively high, and the service can be performed by one or more users. Sometimes the program can run on a virtual machine instead of the operating system or hardware and manage the local supervisory system. The difference from the virtual connection of the traditional method is that in the system when the service is developed, the data must be transmitted according to the specified rules, and the system would leave a record when passing through each node.

The construction of the development environment is the infrastructure for implementing the technology. Among them, physical facilities include commodity computing hardware, storage devices and networks (consisting of nodes and links). These natural resources provide editing, storage, and connection capabilities for Virtual Network Feature (VNF). A virtual installation is removed from the

physical installation of the underlying network, which has functions such as compute and storage. The removal is performed through a virtualization layer that disconnects the virtual resource from the natural resource. In a typical environment, a network consists of virtual nodes and virtual connections, and its computing and storage resources are often replaced by one or more virtual machines. Each virtual node is a software unit with editing and routing capabilities. When deployed on a virtual node, it can be used as an operational node or an upgrade node. Operation nodes must use some computing resources, while forwarding nodes must only act as forwarding nodes and do not need to occupy computing resources. Each virtual connection is a logical connection relationship between two virtual nodes, which reflects their connection relationship to the physical connection. It can be said that it provides relevant technical support for the mapping process of service chain.

4.2. Cloud Data Technology for Data Resources

Metadata is not only related to data, but also structured data. Metadata can provide standard description and restoration tools for various types of digital resources. It can exist in the data, and be independent of the data, or accompany with the data (format, size, etc of the information data itself). The metadata structure can be divided into three levels: content structure, syntax structure and semantic structure. Content structure generally determines the constituent elements of metadata, which generally corresponds to the function of the metadata. Grammars often determine the form and description of metadata, and describe how metadata and sources of information are related in general. Semantic structure is the embodiment of the semantic characteristics of metadata, which describes the definition and requirements of metadata and has many metadata templates.

Metadata technology refers to metadata that describes the title, author, keywords, and other relevant information of a resource, which is most suitable for resource identification and discovery. By using the correspondence between different metadata, the computer's comprehension ability and interoperability are enhanced. However, the semantic information expressed by metadata is simple.

4.3. Sound Shared Path

The good transmission environment is the important assurance for the wholesome and rapid growth of data sharing. To speed up the clean-up of the existing situations of inappropriate data resource sharing, particular care needs to be taken to overall planning and coordination. On the one hand, the exchange of digital ideological and political resources can be studied to enrich the theoretical knowledge system. Few people apply the concept of "sharing" to the study of digital ideological and political resources. If this issue is deeply studied and corresponding feasible strategies are put forward, the whole theoretical system of ideological and political education resources may be more perfect.

On the other hand, for ideological and political teachers, in the open ideological and political teaching process and under the guidance of shared ideas, by sharing these high-quality classroom resources and applying them to their own teaching practice, teachers can continuously improve the teaching level, which helps to enhance the overall instructional quality of faculty. Second, the sharing of high-quality school resources has a certain effect on improving students' autonomous learning ability. Education is a specialized course that develops students' knowledge, skills, emotions, attitudes and values. In addition to listening to the interpretation of the tutors in the classroom, students can also learn high-quality courses on the Internet, and obtain more high-quality resources, as well as inspire their interest in learning and spread their ideas. They can not only gain knowledge, but also feel the power of ideological and political education in their hearts.

5. Conclusions

In today's rapid development, AI-tech and the algorithms it involves can serve many practical

problems, and there are also many models and algorithms derived from artificial intelligence technology, which can solve many problems. This paper was devoted to reconstructing the existing teaching system of digital ideological and political resources using artificial intelligence algorithms. With the simplicity of system operation and rapid connection, the relative balance of digital ideological and political resources was finally achieved. The key works of this paper were: The related methods of reinforcement learning were disassembled, and the anomaly detection of HTM learning algorithm was improved, as well as some status quo of digital resource selection and collection policies were introduced. In the experiment, some opinions of teachers on co-creation and co-ownership model for digitalization ideological and political resources were collected, and the reliability of the data was analyzed. Statistics on the description of resource applicability and the difficulty of obtaining digital ideological and political resources were carried out. The research and investment results of the paper are good. In future experiments, the stability of the platform can be further increased and the cloud function can be added to store teaching resources on cloud servers, which can greatly enhance the sharing of educational resources in colleges.

Funding

This work was supported by Shaanxi Provincial Department of Education, 2023 Annual Teaching Reform Research Project of Higher Vocational Education in Shaanxi Province Innovative Practice and Research on the "Five-in-One" Intersecting Teaching Model of the "Situation and Policy Course" in Higher Vocational Colleges from the Perspective of Integrated Media" (Project Number.23GY013). This work was also supported by Planning Project of the Chinese Society of Business Economics: Research on the Discipline Competition System and Operation Mode of Private Universities in Hubei Province (Project No. 20251111).

References

[1] Xiao B, Lu Y, Fu Z. The Practice and Exploration of Ideological and Political Education Reform in Architectural Decoration Construction Technology Courses Based on the Cultivation of Craftsman Spirit. Contemporary education research, 2022, 6(7):8-10.

[2] Zhan Y, Qitao L I, Zhang M. Key Factors Affecting the Learning Effect of Ideological and Political Students in Colleges and Universities. Asian agricultural research: English version, 2020, 012(005):60-62.

[3] Peng X J, Liu J, Meng X. Analyzing the Design and Promotion of Ideological and Political Content in Online Finance and Economics Courses. Contemporary education research , 2022, 6(7):5-7.

[4] Zhang N, Zhang W, Shang Y. Research on Integrated Energy System of Power Grid Based on Artificial Intelligence Algorithm of Machine Learning. IOP Conference Series: Earth and Environmental Science, 2021, 714(4):35-42 .

[5] Kim T, Kim J, Choi H S. Artificial intelligence-assisted analysis of endoscopic retrograde cholangiopancreatography image for identifying ampulla and difficulty of selective cannulation. Scientific Reports, 2021, 11(1):8381-8384.

[6] Li B, Cai S L, Tan W M. Comparative study on artificial intelligence systems for detecting early esophageal squamous cell carcinoma between narrow-band and white-light imaging. World Journal of Gastroenterology: English version, 2021, 27(3):13-17.

[7] Na J Y, Kim D, Kwon A M. Artificial intelligence model comparison for risk factor analysis of patent ductus arteriosus in nationwide very low birth weight infants cohort. Scientific Reports, 2021, 11(1):7-9.

[8] Hwang E, Goo J, Yoon S. Use of Artificial Intelligence-Based Software as Medical Devices for Chest

Radiography: A Position Paper from the Korean Society of Thoracic Radiology.. Korean journal of radiology, 2021, 22(11):1743-1748.

[9] Palomino R, Low K B, Ji C. Micro Computed Tomography Analysis of Four-Way Conversion Catalysts using Artificial Intelligence-Enabled Image Processing. Microscopy and Microanalysis, 2021, 27(1):1028-1029.

[10] Sausen A , MD Campos, Sausen P S. Classification of the social distance during the COVID pandemic from electricity consumption using artificial intelligence. International Journal of Energy Research, 2021,1(20):77-98.

[11] Jones O T, Calanzani N, Saji S. Artificial Intelligence Techniques That May Be Applied to Primary Care Data to Facilitate Earlier Diagnosis of Cancer: Systematic Review. Journal of Medical Internet Research, 2021, 23(3):234-254.

[12] Visaggi P, Barberio B, Ghisa M. Modern Diagnosis of Early Esophageal Cancer: From Blood Biomarkers to Advanced Endoscopy and Artificial Intelligence. Cancers, 2021,2(13):7-9.

[13] Swpu P. Recent progress and new developments of applications of artificial intelligence (AI), knowledge-based systems (KBS), and Machine Learning (ML) in the petroleum industry. Petroleum, 2021, 6(4):319-320.

[14] Kwon T W, Sang P L, Kim D. Diagnostic performance of artificial intelligence model for pneumonia from chest radiography. PLoS ONE, 2021, 16(4):249-399.

[15] Chi E A, Chi G, Tsui C T. Development and Validation of an Artificial Intelligence System to Optimize Clinician Review of Patient Records. JAMA Network Open, 2021, 4(7):211-297.

[16] Dilip G, Guttula R, Rajeyyagari S. Artificial Intelligence-Based Smart Comrade Robot for Elders Healthcare with Strait Rescue System. Journal of Healthcare Engineering, 2022, 2(4):1-12.

[17] Hvid H, Skydsgaard M, Jensen N K. Artificial Intelligence-Based Quantification of Epithelial Proliferation in Mammary Glands of Rats and Oviducts of Gttingen Minipigs:. Toxicologic Pathology, 2021, 49(4):912-927.

[18] Smith M A, Westerling-Bui T, Wilcox A. Screening For Bone Marrow Cellularity Changes in Cynomolgus Macaques in Toxicology Safety Studies Using Artificial Intelligence Models:. Toxicologic Pathology, 2021, 49(4):905-911.

[19] Tan Y, Corchado J M, Mehmood R. Responsible Urban Innovation with Local Government Artificial Intelligence (AI): A Conceptual Framework and Research Agenda. Journal of Open Innovation: Technology, Market, and Complexity, 2021, 7(2):9-12.