

Research on Digital Educational Resource Management System of China-ASEAN Folklore Sports Culture Based on Knowledge Graph

Yuanbo Zhong^{1,2}, Jiao Lan¹ , Pengfei Fang³

¹ College of Humanities and Education, Guangxi Finance Vocational College, Nanning, Guangxi, 530007, China

² Faculty of Education, Bansomdejchaopraya Rajabhat University, Bangkok, 10600, Thailand

³ Physical Education Institute, Beibu Gulf University, Qinzhou, Guangxi, 535011, China

ABSTRACT

With the rapid development of digital technology, the inheritance and dissemination of folklore sports culture have ushered in new opportunities and challenges. This paper constructs a digital educational resource management platform for China-ASEAN folklore sports culture based on Knowledge Graph. The knowledge system of folklore sports culture is systematically constructed by using Knowledge Graph, the data related to China-ASEAN folklore sports culture are collected and organized, and the construction of the corpus of China-ASEAN folklore sports culture domain is completed. Then we extracted knowledge from the data of folklore sports culture domain and stored the obtained knowledge in Neo4j graph database. The China-ASEAN Folklore Sports Culture Digital Education Resource Management Platform, which includes several modules such as login and registration, courses, personal center, institutions and teachers, and backstage management, was designed. The construction and application of the platform gained 91.2% satisfaction from students, enhanced students' interest in learning folklore sports culture, helped to protect and pass on the rich China-ASEAN folklore sports cultural heritage, and also promoted in-depth exchanges and communication between the two sides in the field of sports and culture to build a community of human destiny.

Keywords: Knowledge Graph, Knowledge Extraction, Educational Resource Management, Folk Sports Culture

1. Introduction

ASEAN countries are important countries along China's "Belt and Road" construction, and have an important position in the construction of the community of human destiny [1]. In addition, the good

 Corresponding author.

E-mail address: lanjiao1636865@163.com (J. Lan).

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work of people-to-people communication can help realize the three goals of community of interests, community of responsibility and community of destiny of the international community [2]. People-to-people communication focuses on mutual understanding and mutual respect of culture, including folk cognition and exchange of history, language, religion, customs and other social life [3-4]. Among them, the cultural exchange of folklore sports is one of the important aspects of the work of people-to-people communication between China and ASEAN in recent years. As a culture closely related to customs and religions, folklore sports, with folklore activities and sports as the form of expression, regulate the people's behavior, language and psychology, is the most vital and dynamic means and ways to inherit the national culture [5-8]. Folk sports culture is a series of cultural phenomena formed in the process of inheritance, dissemination and development of folk sports, which is embodied in the ever-changing folk life, but also in a variety of folk sports-related things that are separated from the field of folk life [9-11]. Therefore, the promotion of folklore sports and cultural exchanges is conducive to advancing the work of China-ASEAN people-to-people communication and contributing to the construction of a community of human destiny [12-13].

Knowledge graph is a knowledge base consisting of a mesh of multiple entities with different attributes, as well as different relationships between different entities [14]. Applying it to resource management systems can provide rich, structured information, which improves resource management efficiency and recommendation accuracy, while being able to provide clear explanations [15]. In view of this, the establishment of a digital educational resource management system based on knowledge graph is conducive to exploring the progress dynamics, evolutionary trends and cutting-edge hotspots of China-ASEAN folk sports research, strengthening the construction of the theoretical knowledge system of folk sports, and is of great significance to the development and utilization of folk sports resources.

This paper proposes a digital educational resource management system for China-ASEAN folklore sports and culture based on knowledge mapping, which solves the problem of the lack of systematic integration of folklore sports and cultural resources of China and ASEAN countries in the digital construction. The knowledge graph of China-ASEAN folklore and sports culture constructed in this paper integrates two methods of top-down and bottom-up, the Chinese word separation in knowledge extraction adopts the Jieba word separation tool to improve the accuracy of word separation, and the folklore and sports culture is set in the form of ternary group and stored in the Neo4j graph database. The dispersed educational resources of folklore sports culture are effectively integrated through the constructed educational resource management system. The application effect of the educational resource management system in this paper is explored through the analysis of the visualization effect of educational resource management and the satisfaction survey.

2. Relevant conceptual, theoretical and technological foundations

2.1. Significance of China-ASEAN Folk Sports Cultural Exchange

The community of human destiny is a global governance idea put forward by China in view of the increasing emergence of symbiotic relationships among humankind, and it is a consensus that all humankind shares the same destiny and breathes together. ASEAN countries are important countries along China's "Belt and Road" construction, and have an important position in the construction of the community of human destiny. In addition, a good job in people-to-people exchanges will help realize the three goals of the international community: community of interests, community of responsibilities and community of destiny. People-to-people exchanges emphasize mutual understanding and mutual respect of cultures, including folk knowledge and exchanges of history, language, religion, customs and other social life. Among them, the cultural exchange of folklore and sports is one of the important aspects of the work on people-to-people communication between China and ASEAN in recent years.

As a culture closely related to customs and religions, folk sports, as a form of expression of folk

activities and sports, regulate people's behaviors, language and psychology, and are the most vital and dynamic means and way to pass on national culture.

2.2. *China-ASEAN Folk Sports Cultural Exchange Paths*

Building a community with a shared future for mankind requires facing up to cultural diversity, embracing and understanding the cultures of others, and achieving people-to-people bonds through mutual learning. Under the guidance of the idea of a community with a shared future for mankind, ASEAN-China folk sports and cultural exchanges need to practice the Chinese cultural spirit of "harmony without difference", "seeking common ground while reserving differences" and "embracing and merging", break down ideological barriers, and eliminate the negative perception of China by some countries.

2.2.1. Utilizing Tournament Diplomacy to Drive Exchanges. The new concept of the community of human destiny has constructed a new paradigm for human interaction in the era of globalization, and sports, transcending the international attributes of ideology, are able to seek common ground while reserving differences and build bridges of communication between each other in the diplomatic landscape. Utilizing folk sports events to carry out foreign exchanges. The first is to jointly and continuously carry out international folk sports special events. The second is to support the development of folk sports events. The third is to rely on modern sports events to spread folk sports culture. The nearly 200-year history of the spread and development of dragon dance, lion dance, dragon boat racing and other programs has proved that excellent traditional Chinese sports and modern sports complement and coexist with each other, creating a new platform for the development of excellent human sports culture.

2.2.2. Together with the integrated development of tourism to promote exchanges. The entertainment function of folk sports will be further amplified in festivals and celebrations, serving local economic development and cultural exchanges. China-ASEAN has many natural landscapes and cultural heritage resources in the world. The integrated development of folk sports and tourism can not only promote cultural exchanges and economic and trade exchanges, but also contribute to the synergistic protection of cultural heritage, which can be carried out from two aspects. First, the "introduction" aspect. China should create a good local cultural tourism program to attract foreign tourists. The second is "going out". Develop tourism cooperation to bring Chinese tourists and culture to ASEAN. China should further strengthen mutually beneficial cooperation with relevant ASEAN countries and regions in terms of folklore and sports resources, project construction, route building, publicity and promotion, passenger transportation, and ground transportation services.

2.2.3. Conducting various types of education and training to improve communication. Cultivating people who understand and tolerate each other's cultures is an urgent need for China-ASEAN folklore sports and cultural exchanges, which can be done in the following four areas.

First, give full play to the advantages of higher education resources. Give full play to the advantages of China-ASEAN colleges and universities in international student education, short-term training and teacher training, and train more professionals to meet the needs of folklore, sports and cultural exchanges. Encourage China-ASEAN colleges and universities to carry out a wide range of student exchange programs, guide students to participate in outstanding folk sports practices and volunteer activities, objectively recognize and understand each other's cultures, and learn from each other. Strengthen cooperation in teacher training, relax the conditions for visiting China for study and training, encourage our teachers to go to ASEAN countries for teaching assistance and further study, jointly develop China-ASEAN folklore and sports high-quality curricula, and create an intelligent digital education and resource management system for sports and culture by combining the intelligent learning technology of the new era, so as to improve the learning efficiency and interest of the students

in China-ASEAN folklore and sports culture. To improve students' learning efficiency and interest in China-ASEAN folklore sports and culture courses.

Second, to promote the integration of folklore and sports culture into vocational education. The ASEAN Socio-Cultural Community Blueprint proposes to promote the prioritization of education and the enhancement of skills training education in the ASEAN region, particularly in Cambodia, Laos, Myanmar and Viet Nam.

Third, the use of good Confucius Institute and academies and other exchange platforms. Promote the mutual "movement" of folklore, sports and culture.

Fourth, play the role of folk education and training organizations. Sports clubs, martial arts museums, art troupes, cultural associations and other private organizations are an important force in China's folk sports exchanges.

2.3. Knowledge Graph

Knowledge graph, essentially, is a large-scale semantic network used to describe the connections between some things in the real world. It was formally proposed by Google on May 17, 2012 in order to increase the speed of search engine queries, optimize services, and improve users' search quality and search experience. Knowledge graph is composed of a number of interconnected entities and attributes, and these connecting relationships form a huge semantic network.

2.3.1. Methods for constructing knowledge graphs. Define the specific business problem. First of all, the designer should have an in-depth understanding of his business requirements and business problems to see if he really needs the support of knowledge graph. Because in many real-world scenarios, despite the need to analyze relationships and the need to associate tables, it is also possible to use traditional relational databases to analyze the use of knowledge graph instead of increasing the workload, so here summarizes a few points of business scenarios of the needs of the business as a way to help researchers understand whether or not it is really necessary to use the knowledge graph.

Data collection and processing. Want to build a knowledge graph, data is the basic element, we need to analyze the business scenarios to determine what data will be used as entities, how many types of entities are needed, what are the attributes of the entities and so on. In this paper, the data source is the open and free test questions and knowledge data on the web, which are crawled by crawler technology, filtered and processed, and stored in the local database.

Design of Knowledge Graph [16]. The design of the knowledge graph is equivalent to the conceptual layer design, i.e., analyzing the whole knowledge graph, the specific entities, the attributes of the entities, and the relationship between the entities and the entities need to be combined with the business scenarios, and designed in advance, to ensure the completeness and professionalism of the graph.

Data deposited into the knowledge graph. Knowledge graph storage currently has two storage methods, one is based on RDF storage, the other is based on graph database storage.

Development of upper layer application. After the knowledge graph is established, it is applied to different scenarios according to the business requirements. Currently, there are many applications based on the knowledge graph, such as chatbot, semantic search, intelligent recommendation etc., and several enterprises have their own products in the corresponding fields.

2.3.2. Storage and representation of knowledge graphs. Knowledge graphs are distinguished from common relational databases, where the most common storage method is tables, using two-dimensional tables and connections between them for data organization. Although this approach is easy to maintain, the table structure is more uniform, but when it comes to complex business scenarios, it is more difficult to establish connections between multiple tables, less flexible. The storage of

knowledge graph is completely different from relational databases. The storage of knowledge graph is mainly divided into two ways: one is based on RDF [17], and the other is based on graph database.

3. China-ASEAN Folklore Sports Culture Domain Knowledge Graph Construction

In this chapter, we will study and analyze the construction process of China-ASEAN knowledge graph in the field of folklore, sports and culture, and choose a suitable construction method to complete the construction of China-ASEAN knowledge graph in the field of folklore, sports and culture. First of all, the construction process of China-ASEAN knowledge graph in the field of folklore, sports and culture is clarified and appropriate construction methods are selected.

3.1. Process of constructing knowledge graph in the field of China-ASEAN folklore and sports culture

Based on the comparative analysis of knowledge graph construction methods, this study finally chooses the combination of top-down and bottom-up methods to realize the construction of China-ASEAN knowledge graph in the field of folklore, sports and culture according to the actual situation and data characteristics, in order to reduce the manpower and material resources spent in processing data, and to make the constructed China-ASEAN knowledge graph in the field of folklore, sports and culture of high quality. The process of constructing the knowledge graph in the field of China-ASEAN folklore, sports and culture is shown in Figure 1.

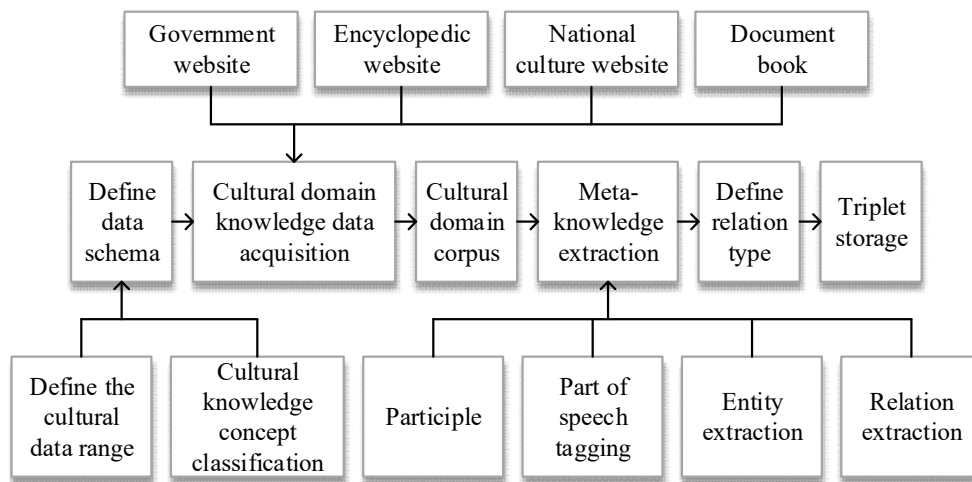


Fig. 1. Construction process of knowledge graph in cultural domain

3.2. China-ASEAN Folklore and Sports Culture Domain Corpus Construction

The scope of China-ASEAN folklore and sports culture data needs to be determined before the construction of the knowledge graph, and the determined scope should be able to include all the China-ASEAN folklore and sports culture knowledge. Within the determined scope, the knowledge information in the field of China-ASEAN folklore, sports and culture should be studied and analyzed, and key concepts and terms should be summarized and organized.

Knowledge graph is constructed based on data, so the key step in constructing knowledge graph is the acquisition of domain data. The data of China-ASEAN Folklore, Sports and Culture Domain Knowledge Graph comes from two main sources, the first one is the books in the field of China-ASEAN Folklore, Sports and Culture, and the second one is the encyclopedic websites and their related online resources.

1) Books in the field of China-ASEAN folklore and sports culture. The content of the book in the field of China-ASEAN folk sports culture has great reference significance and strong guidance for the study of China-ASEAN folk sports culture and the establishment of a knowledge graph in the field of China-ASEAN folk sports culture. When obtaining books and materials in the field of China-ASEAN folk customs and sports culture, it is necessary to convert the non-editable text in the books into editable ones and store them in the form of ".txt" files.

2) Encyclopedic websites and their related online resources. In order to make the knowledge of China-ASEAN folklore and sports culture more comprehensive and complete, this paper utilizes the data of China-ASEAN folklore and sports culture on encyclopedic websites and related websites to supplement the corpus of China-ASEAN folklore and sports culture field.

3.3. Extraction of knowledge in the field of China-ASEAN folklore and sports culture

Knowledge extraction is the process of extracting entities, relationships and attributes from a large amount of China-ASEAN folklore sports and culture resource texts. For the acquired data in the field of China-ASEAN folklore, sports and culture, the construction of knowledge graph can not be completed by directly depositing them into the database, but the data should be extracted first to obtain a large number of China-ASEAN folklore, sports and culture knowledge triples, which can be used in the form of triples to display China-ASEAN folklore, sports and culture. The knowledge extraction work on the acquired data in the field of China-ASEAN folklore and sports culture mainly includes the following four sub-tasks.

3.3.1. Chinese Segmentation. Chinese word segmentation is mainly to accurately cut the Chinese character sequences in the China-ASEAN Folklore, Sports and Culture Domain Corpus after data cleaning into the form of a collection of characters separated from words. In the choice of participle tool, the advantages and disadvantages of various participle tools are analyzed by comparison, and finally the Jieba participle tool is chosen to complete the participle task.

In order to solve the problem of inaccuracy of Jieba participle results, the solution of this study is to add customized dictionaries to the participle process. The formulated dictionary was added to the word segmentation program to realize the re-segmentation of the text of China-ASEAN Folklore and Sports Culture.

3.3.2. Lexical annotation. The second task of knowledge extraction is to perform lexical labeling, and the purpose of performing lexical labeling is to ensure that the subsequent entity extraction work can be carried out smoothly. Lexical annotation can be understood as a word classification problem, which is to classify each word according to its lexical properties in the context and label the word with the correct lexical properties. After comparing and analyzing different lexical annotation methods and tools, this paper mainly adopts the lexical annotation model in the Language Technology Platform (LTP) of Harbin Institute of Technology (HIT) for lexical annotation of China-ASEAN Folklore and Sports Culture texts.

3.3.3. Named Entity Recognition. Named entity recognition is mainly based on the China-ASEAN Folk and Sports Culture sub-phrase results and lexically labeled result texts obtained in the previous two sections, and entity information such as names of people is extracted using entity extraction methods. This thesis mainly utilizes regular expressions to establish corresponding rules based on the features of lexically labeled text, and matches these rules with the lexically labeled text of China-ASEAN Folk Sports Culture to extract the words with 'n' in the text, which are entities.

3.3.4. Relationship extraction. In the final step of knowledge extraction [18], relationship extraction refers to the extraction of entity-entity relationships from the text that has been categorized into words.

In order to successfully build a knowledge graph of China-ASEAN folklore and sports culture, it is necessary to realize the accurate identification of the associated features of each subject in China-ASEAN folklore and sports culture data through the relationship extraction technique and express them in the structure of “entity-relationship-entity” ternary group, so as to realize the effective construction of the knowledge graph. In this paper, we mainly choose the LTP syntactic analysis model of Harbin Institute of Technology (HIT) to syntactically analyze the knowledge of China-ASEAN folklore, sports and culture, and utilize the trained model to train the knowledge text in the field of China-ASEAN folklore, sports and culture, so as to extract the syntactic relationships between entities.

3.4. Knowledge storage in the field of China-ASEAN folklore, sports and culture

In the above knowledge extraction and relationship extraction, a large number of entities and triads in the field of China-ASEAN folklore, sports and culture have been obtained. In order to make the knowledge graph more systematic and standardized for easy querying, it is necessary to analyze and define the type labels of the extracted entities and triads, and entity type labels and relationship type labels have been obtained.

In this paper, all the knowledge extracted is stored in the form of “txt” files, and it is very convenient to convert the “txt” text files to CSV format, and the Cypher LOADCSV statement can import data faster, so this paper Therefore, we choose to use Cypher LOADCSV data import method to import data.

4. Design of the resource management platform for folklore sports and cultural education

4.1. System design requirements analysis

The platform provides both professional teaching resources and complete teaching functions. In this platform, teachers can utilize online resources to create online course content and provide learners with available course resources, and learners can study related courses and obtain corresponding course resources, or search for related resources directly. These form the basis of the course. Teachers can also carry out other teaching activities through the platform, such as setting homework exams and initiating discussion topics, while learners are involved in completing homework exams, participating in discussion topics, and other personal learning tasks. The platform of this research is mainly aimed at realizing the online learning of China-ASEAN folklore and sports culture resources in order to achieve the purpose of disseminating minority cultures, so the requirements of the whole platform should focus on the display of pre-collected China-ASEAN folklore and sports culture resources as well as processed China-ASEAN folklore and sports culture courses, and to design and realize a platform to meet the requirements for the learning of China-ASEAN folklore and sports culture resources. Design and realization of a platform to meet the learning needs of China-ASEAN folklore sports culture resources.

Since the platform is designed as a display platform for the online course “China-ASEAN Folklore and Sports Culture”, it is analyzed from the perspective of the platform's functional requirements that the online course teaching platform integrates a variety of different teaching materials to provide a simple and convenient platform for different learners to learn. The design of the platform needs to allow non-logged-in users to access and carry out preliminary browsing and learning. Registered users can select a specific course, enter the course information page and follow the prompts to learn, but should also set up appropriate restrictions for non-logged-in users, such as prompting to log in before they can download or browse more course resources and so on. Logged-in users can choose to browse and learn the relevant cultural information of China-ASEAN Folklore and Sports Culture in the course center of the whole teaching platform. Teachers or learners can choose to study the chapters they are interested in according to their own learning habits and interests.

1) The Digital Education and Resource Management Platform for China-ASEAN Folklore and Sports

Culture should be educational, that is, through the platform, learners can learn about China-ASEAN folklore and sports culture, have a clear understanding of China-ASEAN folklore and sports culture, and realize the importance of learning about China-ASEAN folklore and sports culture in promoting the inheritance of traditional ethnic cultures. Different participants in the platform play different roles and have very different operating privileges.

2) Teachers need to be able to flexibly design and organize the chapter content of the course, so as to actively discuss and analyze, and actively guide the learners to learn independently, create a good network learning atmosphere, motivate students to learn, and improve learning efficiency.

3) Learners can choose the appropriate learning courses according to their own receptivity and interests, and provide timely feedback on the results of teaching evaluation through the network teaching platform, so as to promote the continuous improvement of the network teaching platform, as well as the ability to download and use the auxiliary materials uploaded by the teacher.

4) Administrators need to be able to add, delete, check and change users, control any user, set system parameters and so on. Through the above description, it can be learned that the overall function of the platform is shown in Figure 2.

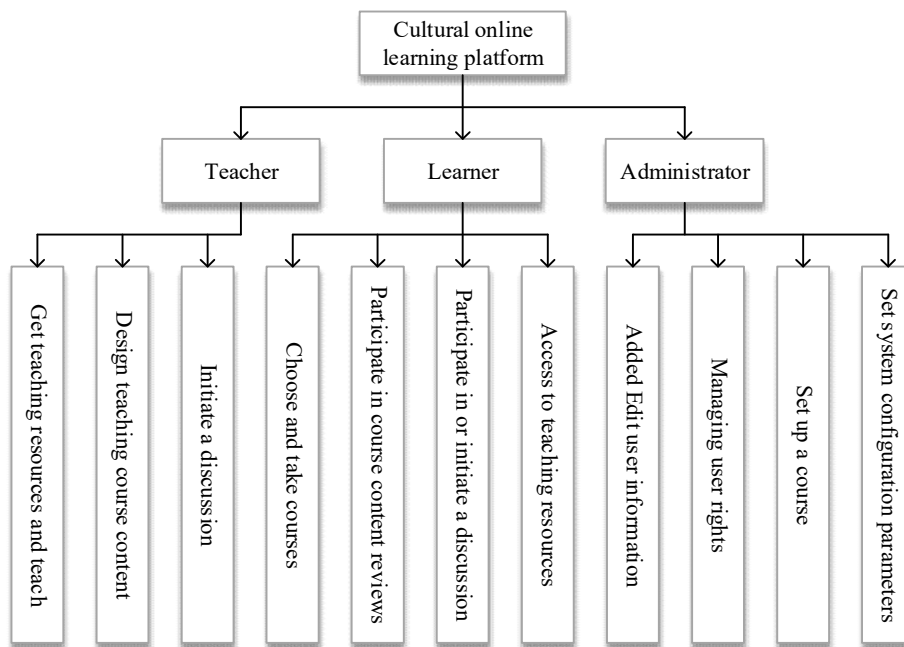


Fig. 2. Overall functional requirement diagram

4.2. Functional Module Design of Educational Resource Management Platform

Through the above analysis can be learned, the feasibility of the system design of this paper to meet the requirements, then we will be specific China - ASEAN folklore sports and cultural resources teaching activities and the teaching process is closely linked to the division of different functional modules, details of the functional module composition of the content shown in Figure 3.

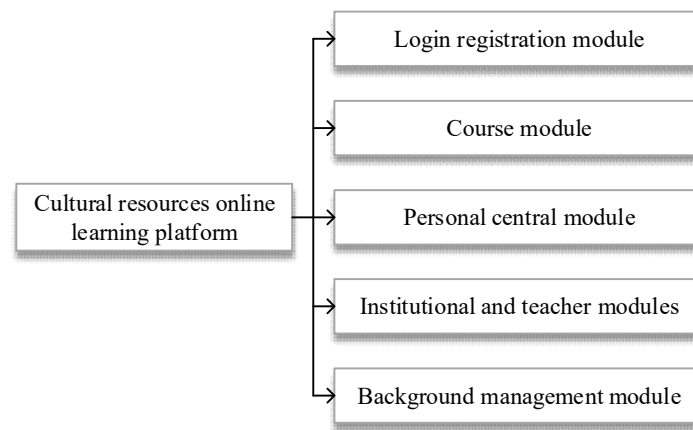


Fig. 3. Details of the content composition of platform function modules

The login and registration module allows users to register their information, and after completing the registration, they can enter the correct user name and password to enter the corresponding operation page in the system and further carry out other operations. In the process of user registration account information, you need to use the mailbox to assist in the verification process, after successful verification, return to the system login interface, enter the correct user name and login password, you can enter the system. If the account password is forgotten or lost, you can change the password with the help of the mailbox, after the change is completed, enter the user name and new password to successfully log in the system.

The main role of the course module is to deal with all the business related to the course, under this functional module can be further divided into different sub-modules, first, the course list module, mainly displaying the course list information, you can search for courses and view. Second, the course details submodule, you can understand the course introduction, instructors and other related details. Third, the course learning sub-module, with the help of this sub-module, you can select different course chapters according to the user's rights, and evaluate the teaching situation.

The main function of the personal center module is to deal with user-related information, and this functional module can be further divided into different sub-modules: first, the user's personal information sub-module, through which the user can view and modify his/her personal information. Second, the user course information submodule, the main role is to system prompts and receive station information. Third, personal message submodule, users can use this submodule to view system information.

The Institution and Teacher Module mainly involves four different sub-modules, one of which is divided into the Institution List, which involves the function of searching and sequencing information, and also provides the user with the function of dividing the structure type and consulting service. The second is the organization details sub-module, the third is the instructor list sub-module and the fourth is the instructor details sub-module. Institution details sub-module and instructor details sub-module are mainly involved in the functional roles such as favorites, brief introduction, and information viewing.

This system mainly uses Django framework design technology and the use of Xadmin plug-ins to complete the background management subsystem design. The background management sub-system mainly has the functions of viewing, deleting, modifying, and checking the information of users, courses, institutions, and lecturers, etc. The operations between the four different behaviors will be realized with the help of Django app technology.

5. Digital Educational Resource Structure for Folklore Sports and Culture

5.1. Aggregate linkage of knowledge points

Taking the closeness of the connection between the folklore sports and culture courses and the professional needs as the weight value reference, retrieve the keywords of the branch nodes of different courses, and calculate the similarity of the corresponding branch nodes among different courses, generate the knowledge point aggregation association of the corresponding nodes, and generate records. According to the above process, cluster analysis is carried out to analyze the related similar or repeated knowledge points in different subjects and form the knowledge point aggregation association. The example of the knowledge point aggregation association (part) of the specialized course group of folklore sports culture course is shown in Figure 4.

By analyzing the core keywords of each knowledge point and the text description of the main content, the data mining of the knowledge point aggregation association of the course cluster is realized. By analyzing the knowledge points of Basic Concepts and Characteristics, Main Types and Programs, and Inheritance and Protection of Folklore Sports and Culture Courses, three knowledge point aggregation associations are mined: Innovation, Origin, and Development Theory, and the aggregated knowledge point collections are presented in a visual way.

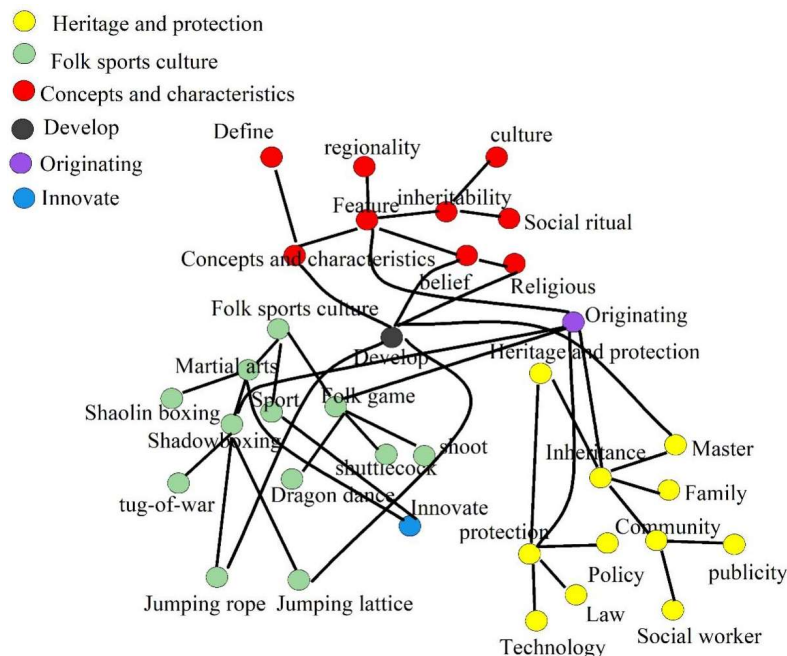
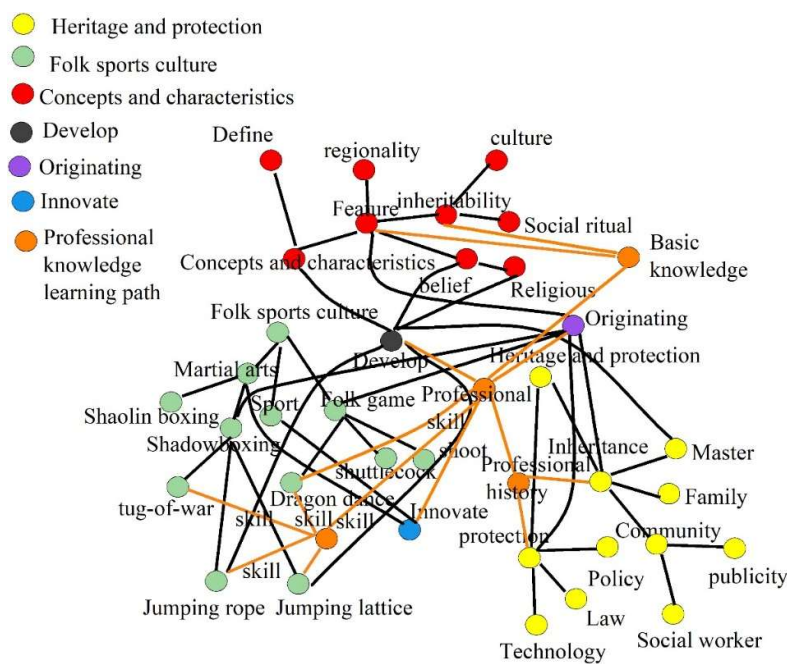


Fig. 4. Knowledge point polymerization

5.2. Learning path mapping application

Learning path mapping is shown in Figure 5, based on the discovery of the knowledge point aggregation association process, on the learning path mapping, firstly, according to the learning objectives or job requirements, based on the logical structure of the knowledge association tree, to complete the knowledge point aggregation association operation and the retrieval of the knowledge association tree in the library, and to generate the learning path mapping set based on this mapping. Through the knowledge point aggregation association operation, the corresponding learning path mapping set can be found, and through the obtained learning path mapping set, the directed acyclic graph with the knowledge points and skills of the folklore sports and culture course as the nodes is constructed, and the learning path planning based on the knowledge association tree is accomplished and recommended to the learners.



The results of platform satisfaction statistics are shown in Figure 6. As can be seen from the results of platform satisfaction statistics, the overall satisfaction of college students with the learning effect of the educational resource management platform (91.2%), as well as the platform design (93.9%) and the platform teachers (94.9%), is high. In terms of platform resources, 74.5% of college students were satisfied with the learning effect, but there existed 25.5% of college students who expressed

dissatisfaction. In terms of platform interaction, 84% of college students were satisfied with the platform interaction process for their learning effect, and there were still 16% of college students who expressed dissatisfaction.

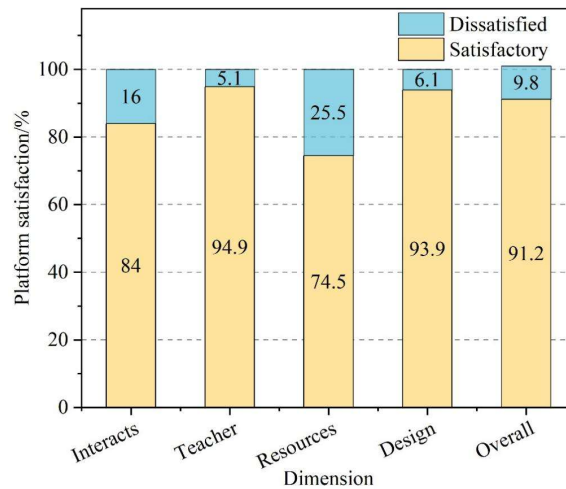


Fig. 6. Platform satisfaction

6.3. Analysis of satisfaction with the platform design scale

Platform design is an important support for college students to carry out online learning, and it has a facilitating effect on college students to improve their learning efficiency. The results of the survey are shown in Figure 7, which shows that college students are highly satisfied with platform credibility and platform openness, which are 75.4% and 71.9%, respectively, and a small number of college students expressed dissatisfaction. Satisfaction with platform operability and stability was the next highest. In terms of platform friendliness, 47.3% of college students believe that the platform friendliness has improved their learning efficiency in the learning process, 41.9% of college students chose average, and a few expressed dissatisfaction. With regard to the platform's diversified functions that can meet most of the learning needs in learning, 47% of the college students expressed satisfaction, 34.2% chose average, and 18.8% still expressed dissatisfaction.

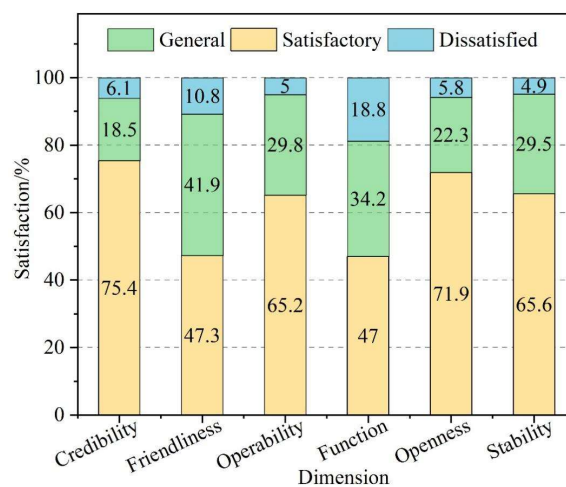


Fig. 7. Platform design satisfaction

6.4. Analysis of satisfaction with educational resources scale

Educational resources are the core content of college students' learning and will have a direct impact

on their learning effectiveness, as shown in the survey results in Figure 8. 59.4% and 56.5% of the college students were satisfied with the selection of course materials and the accuracy of knowledge points, and the percentage of those who were not satisfied was the lowest. The richness of course materials determines whether it can meet the learning needs of college students, 44% of college students expressed satisfaction with the richness of materials, and 30.4% of college students expressed dissatisfaction. The content design includes rich content design and flexible course time, although 46.5% of college students expressed satisfaction, there are still 13.8% of college students expressed dissatisfaction. Tasks and evaluations can help college students understand the key points and master new knowledge in the course, and the data showed that 37.5% of college students were satisfied with them, while 34.7% disagreed. The use of after-class learning resources can help college students complete after-class consolidation and check for deficiencies, however, 23.9% of the college students expressed dissatisfaction, while 33.6% of the college students said it was average. After using the platform learning resources, 52.3% of the college students have an average attitude towards the achievement of the expected learning effect, and 8% are dissatisfied with the learning effect. Of course, 75.8% of the college students said that no charge for resources promoted the efficient utilization of learning resources.

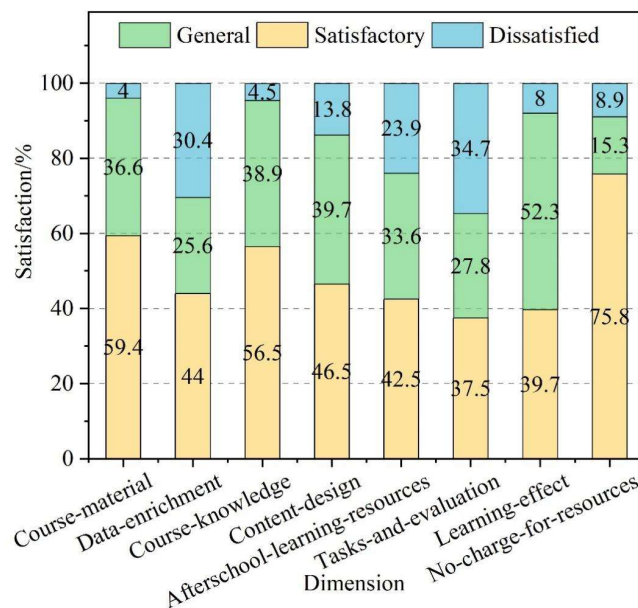


Fig. 8. Platform education resource satisfaction

6.5. Analysis of satisfaction with the Teacher Quality Scale

Platform teachers determine the overall quality of the course, but also the organizer and lecturer of the learning content. The results of their survey are shown in Figure 9, 73.5% of college students expressed satisfaction with the reputation of the platform teachers they followed for teaching, and a few college students were dissatisfied. Regarding the description of teachers' knowledge points, 67.2% of college students were satisfied that the description of knowledge points enabled them to clearly understand the course content, while 6.3% were dissatisfied. Regarding the instructor's teaching style, 47.5% of the college students were satisfied with it, which enabled them to quickly integrate into the classroom learning, while 12% of the college students expressed dissatisfaction. 51.4% and 44.5% of the college students were satisfied with the teachers' degree of professionalism and course expansion, which could deepen the understanding and improve the learning effect, respectively, but 32% of the college students were dissatisfied with the knowledge expansion in the course. 41.5% of college students were satisfied with the teacher's explanation, 51.3% thought it was average, and 7.2% were

dissatisfied. After the course, 67.4% of the university students thought that the quality of teachers could be improved.

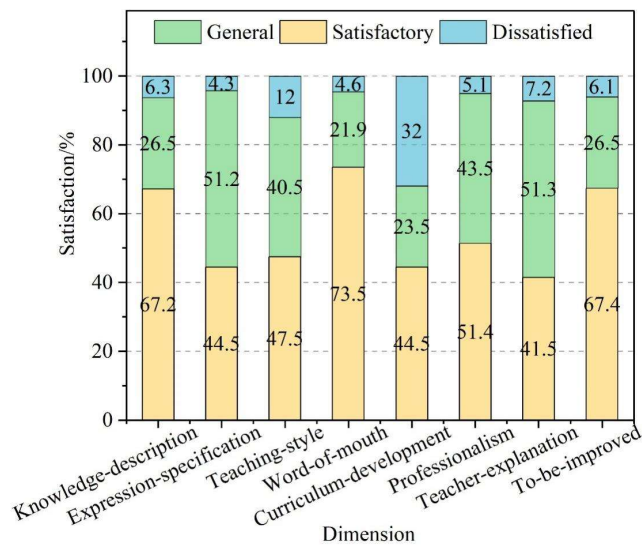


Fig. 9. Platform teacher quality scale satisfaction

6.6. Analysis of satisfaction with the platform's interactive features scale

The results of the satisfaction survey of the platform interaction function are shown in Figure 10. The platform interaction function is the basic channel for college students to realize exchange and communication, which provides real-time interaction for college students' learning. College students are highly satisfied with the four aspects of interaction function, learning space formation, learning interaction and peer interaction in the course, which are 51.2%, 69.5%, 57.9% and 57.9% respectively. Some college students held average as well as dissatisfied attitudes. Regarding the faculty-student interaction in the course, 39.5% of the college students were satisfied that the faculty-student interaction was able to solve their doubts and problems in learning in a timely manner, 29.3% of the college students chose average, however, 31.2% of the college students held dissatisfied attitudes towards the faculty-student interaction in solving their doubts and problems in the process of their learning. In the course interaction, 26.5% of the college students were dissatisfied with its ability to solve the difficulties in learning, and 38% of the college students were satisfied.

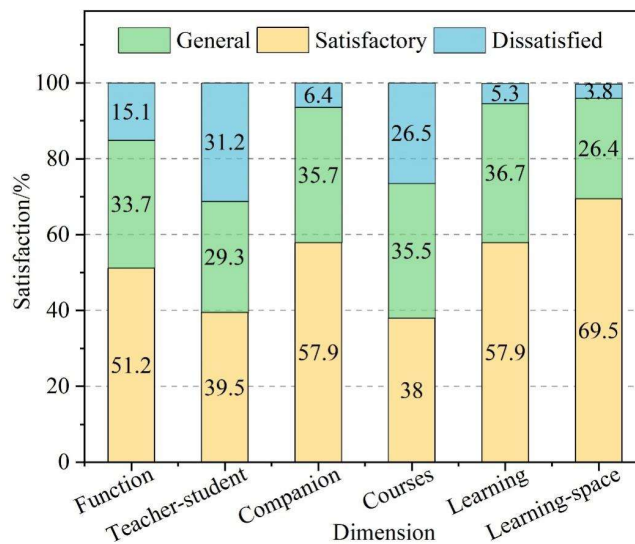


Fig. 10. Platform interaction function satisfaction

7. Conclusion

This study constructs a digital educational resource management platform for China-ASEAN folklore sports culture based on knowledge graph, aiming at exploring the efficient integration, management, and sharing of rich folklore sports culture resources between China and ASEAN countries, and promoting cultural inheritance and exchange.

The digital educational resource management of folklore sports culture is more effective, proposing three core knowledge elements of innovation, origin, and development theories to correlate the knowledge structure with the resources. The learning needs are mapped to the core knowledge structure tree in the field of folklore sports and culture, and accurate learning paths and data resources of China and ASEAN folklore sports and culture are recommended for users.

The practice of this paper shows that the digital education management system based on knowledge graph provides a new technical means for the inheritance of folklore sports culture, and obtains a high degree of student satisfaction in the dimensions of platform design, educational resources, teacher quality, and platform interaction, and the overall satisfaction of students with the learning effect of the platform is 91.2%. It shows that the platform promotes the innovation of teaching mode, and through the functions of digital display and interactive learning, it makes the learning of folklore sports culture more vivid and interesting, and attracts more young people to learn and participate. As young people are the hope of the nation, this initiative facilitates the organization and implementation of cultural exchanges between China and ASEAN, further deepening the friendly relations between China and ASEAN countries.

In the future, with the continuous progress of technology, the system will play a greater role in the cultural and educational neighborhood, contributing to the building of a community of human destiny.

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