Research Article

Design and Implementation of College Japanese Teaching Interactive System Based on Moodle Platform

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In order to make college Japanese teaching better adapt to the pace and process of the rapid development of society and enable contemporary college students to better apply and practice it, this study has built a college Japanese teaching interactive system based on Moodle platform to analyze the current situation of college Japanese education and teaching; by integrating the Moodle platform online teaching mode into the conventional teaching mode, we evaluate and analyze the demand data of the college Japanese teaching system under the two different teaching modes; it can be clearly seen that the application of Moodle platform online teaching mode can enable teachers and students or students to think together, work together to solve problems, more actively promote students’ independent interaction, communication, exchange, and discussion with others, greatly improve students’ enthusiasm for autonomous learning, and enable students to receive higher quality education and teaching.

1. Introduction

Moodle is an online course learning platform developed by Australian teacher Martin Dougiamas. It is a global educational project and is deeply loved by educators. The development of information technology has promoted the process of educational informatization, and all walks of life have begun to pay extensive attention to the construction and sharing of teaching resources [1]. Moodle platform is based on the teaching idea of social constructivism. Educators and learners are equal to each other in this platform. In teaching activities, they think and cooperate together in different technical dimensions and build knowledge and understanding based on existing experience in interaction. Moodle platform is very powerful. Its application in college English teaching can significantly improve students’ interest in learning and improve their learning efficiency [2]. Yi et al. aimed to technically empower Moodle teaching platform, create an adaptive learning environment, and carry out personalized learning. Practice shows that adaptive learning environment helps to improve learners’ learning efficiency and meet learners’ personalized learning needs to a certain extent [3]. The advantage of Yang et al. fractional calculus is that it can more accurately describe specific and complex change processes with time span and spatial domain value correlation [4]. Moodle platform is a dynamic learning platform. The school should actively build an information-based teaching platform, arrange teachers of various specialties to make Moodle platform teaching plans, make information-based teaching courseware, and design online interaction and testing links to meet students’ curiosity. Students can also independently review online teaching videos after class, review online testing topics, and better understand knowledge points, so as to improve the learning effect of students’ professional courses [5]. Moodle software improved the modeling method and modeling accuracy without reducing the modeling design requirements and optimized the neural space mapping (neuro SM) DC characteristic modeling method [6]. Moodle software does not require high computer skills for learners. As long as they can master the basic operation of the computer and can use Internet Explorer, they can use it. Zhao reconstructed the hybrid teaching course resources, strengthened learning support services, and paid attention to the practical application process.
through the normalized hybrid teaching design of online courses, so as to promote students’ in-depth learning. Effective learning resources, learning activity design, and precise learning intervention can improve students’ learning effect, highlight students’ subjectivity, promote students’ autonomous learning, and effectively cultivate students’ online learning habits [7]. Moodle system also supports various management and communication tools and provides student logs as personal collection space, and Moodle system also has high security. Yang et al. intelligent material is a new functional material integrating sensing, driving, and control. Moodle software system based on it is one of the frontiers of science and technology in recent years [8]. In the context of education informatization, the online learning platform can record the access data of teachers and students and save important course materials and is an important expansion of traditional teaching feedback channels such as classroom teaching inspection, questionnaire survey, and symposium [9]. With the continuous progress of China’s science and technology, the utilization rate of Internet technology in our life is also continuously improving [10].

Moodle system has subverted the traditional teaching mode, triggered the transformation of the roles of teachers and students, and provided new ideas for the further development of teaching and learning [11]. The traditional classroom model has been greatly changed, with more emphasis on the comprehensive training of students. At this stage, many universities have language teaching courses, and Internet online teaching has become a new teaching method and is widely used in university teaching. Yang et al. based on the proportional integral derivative controller (PID) which is a stable and reliable controller. Applying it to the automatic control of chemical process can improve the overall automatic control level of chemical process [12]. Language is the basis for people communication. With the development of globalization, China has shown a more active and open attitude towards development. There are certain similarities between Chinese and Japanese cultures. Japan is also an important country in China’s foreign trade, which puts forward higher requirements for the training of Japanese professionals [13]. From the perspective of current higher education work, remarkable achievements have been made in foreign language teaching, especially in the context of China’s rising international status, international exchanges are more frequent, and the requirements for language professionals are higher and higher. College Japanese teaching focuses on cultivating students’ Japanese ability, emphasizing the improvement of students’ cross-cultural communication ability. With the deepening of cultural exchanges between China and Japan, Japanese practitioners should improve their communicative and innovative abilities. Many students’ Japanese learning focuses on theoretical knowledge and lacks the training of communicative competence. In this regard, many colleges and universities employ Japanese foreign teachers to teach Japanese and set up rich Japanese learning situations in classroom teaching, so as to make up for the lack of students’ Japanese application ability [14]. This research analyzes the needs of college Japanese teaching under different teaching modes. Moodle teaching management platform highlights the characteristics of Japanese and facilitates the daily oral practice of Japanese learners. At the same time, teachers can timely understand the teaching effect according to the test results of learners and the completion of assignments.

2. Significance of College Japanese Interactive System Teaching Mode Based on Moodle Platform

In the past two years, due to the impact of novel coronavirus pneumonia, schools have basically adopted the network-based teaching mode. Online teaching is a positive response of the education system under the antiepidemic situation. In the context of improving the communication and innovation ability of Japanese, Moodle education platform has been well evaluated by users for its powerful educational resources and learning content. On this basis, the school has derived a new teaching mode—the combination of online teaching and offline teaching. This model will become the development trend of education in the future. Online education has a wide range of development prospects. It is the innovation of educational system, ideas, and methods and one of the manifestations of future educational development. It improves the interaction between educators and learners in the learning process. The quality of teacher-student interaction will directly affect the effect of learners and learning resources, as well as the interaction between learners, and then affect the quality of education. Compared with the traditional teaching mode, the online teaching platform has the advantages of flexible interaction, information sharing, and diverse content. It allows students to study independently in the network teaching management platform, which can effectively improve the teaching efficiency [15]. Moodle learning platform includes course learning, knowledge test, problem exploration, and other learning contents. So learners can set goals, after obtaining resources, they can actively discuss and construct knowledge, while educators are the givers and helpers of information and really give full play to the teaching mode of “students as the main body and teachers as the leading.” The new model of Japanese listening teaching based on the Japanese learning resources of Moodle education platform meets the needs of college students’ comprehensive Japanese application ability. The use of Moodle education platform directly reduces the psychological pressure of learners and improves their interest in learning. Under the guidance, help, and supervision of educators, the use of Moodle platform is more helpful to the cultivation of learners’ autonomous ability. Educators rely on the Moodle platform to write questions. Moodle education platform has the function of test paper analysis so that educators can grasp students’ learning status in time and greatly improve students’ autonomous learning ability. Chunyan holds a seat in the modern teaching mode. The main reason is that hybrid teaching can comprehensively use a variety of methods, and in the basic teaching mode, let students find and put forward problems by themselves in the whole process of autonomous learning and analyze and solve problems.
at a deeper level [16]. The combination of online and offline and the combination of theory and practice, this dual hybrid teaching mode is not only conducive to promoting the development of education and teaching resources but also conducive to mobilizing students’ learning enthusiasm, so as to bring new changes to teaching ideas, operation mechanism, and talent training.

3. Disadvantages of Traditional College Japanese Teaching

China and Japan are neighbors separated by a strip of water. They have had close exchanges since ancient times. After entering the 21st century, with the deepening of exchanges and cooperation in all aspects of economy, politics, and culture, Japanese teaching has also attracted great attention. It is more necessary to comply with the development trend of the times and cultivate excellent and high-quality talents with Japanese specialty [17]. With the exchanges between China and Japan, Japanese learners are also favored by the society. Then, from the current teaching mode, the traditional Japanese teaching mode hinders the improvement of Japanese teaching efficiency. Traditional classroom teaching is based on teachers and books. Teachers are active and learners are passive. Learners listen to the teachers and only remember the dry textbook knowledge without understanding the actual content in the book, which is what the ancients called “talking on paper.” In the process of teaching, learners are only passively accepting knowledge without the process of discovering, analyzing, and solving problems. It is easy for learners to master knowledge without thinking, questioning, and paying no attention to the application of knowledge. They become a veritable “book bag,” and college students have more active thoughts and rich imagination. It is difficult for Japanese teachers who only rely on simple words to have a good learning effect. Moreover, college students’ passive learning is easy to lose their positive life attitude, dream, and passion, become dull and inert, and stifle and destroy college students’ interest in learning Japanese.

4. Exploration and Practice of Online and Offline and Theory Practice Interactive System Teaching Mode

Online and offline hybrid teaching uses network information technology to extend the classroom from the classroom to the network virtual space, that is, on the basis of traditional classroom teaching, combined with the educational resources of the network teaching platform, and using advanced teaching tools for online teaching. This kind of online and offline hybrid teaching can enable college students to participate in face-to-face classroom learning at the same time. You can also use rich online teaching resources for autonomous learning. Online teaching makes use of online teaching resources, which can be used for online discussion, interactive Q&A, result test, assessment, and evaluation, so as to meet the personalized needs of college students’ learning and improve the initiative and inter-action of learning. Offline teaching can carry out further advanced learning through face-to-face teaching, question answering, and discussion with teachers. On the other hand, online teaching has the advantages of diversified educational resources, learning anytime, anywhere, no place restrictions, timely adjustment of learning content according to their own ability, and timely receipt of the latest learning information. Hybrid teaching combines the advantages of online teaching and offline teaching, takes advantages of online teaching and traditional offline classroom teaching, creates a student-centered learning environment, and designs a teaching model and targeted student experience that meet the needs of the curriculum, teachers, and students.

5. Requirements for College Japanese Teaching under Different Teaching Modes

5.1. Requirements of College Japanese Teaching under Different Teaching Modes. With the continuous improvement of China’s economic system, Japanese, a small language, has gradually attracted people’s attention. College Japanese is also offered in college courses. However, by analyzing the current situation of college Japanese teaching, we can see that the way of college Japanese teaching lags behind, and there are many problems in teaching. In universities, Japanese majors have the highest utilization rate of online teaching using the Internet. University is a place for cultivating all kinds of talents. Colleges and universities should actively integrate Internet online education into teaching and better help Japanese teaching reform and development. Such development is of great significance to the teaching of the whole university [18]. In the process of designing and implementing the interactive system of college Japanese teaching, analyzing the existing problems in college Japanese teaching can better improve the teaching system. Based on Moodle platform, the demand data of college Japanese teaching under two different teaching modes are compared and analyzed, and Table 1 is obtained.

Table 1 shows the demand comparison data of college Japanese teaching under the two different teaching modes, which is compared and analyzed from the aspects of teaching form, learning enthusiasm, teaching efficiency, and teaching quality. It can be clearly seen that the college Japanese teaching system under the online teaching mode of Moodle platform has higher demand for the general environment than that under the conventional teaching mode.

In order to more intuitively reflect the design and implementation of college Japanese teaching interactive system, the demand analysis and comparison results of college Japanese teaching in the general environment under different teaching modes are compared. The demand data of college Japanese teaching in the general environment under two different teaching modes in Table 1 are visualized, and Figure 1 is obtained.

Figure 1 shows the comparison and analysis of the needs of college Japanese teaching under the two different teaching modes. It can be seen intuitively that the college Japanese teaching system under Moodle online teaching mode is superior to that under conventional teaching mode, which
can better meet the teaching needs of the current environment, promote the diversified development of courses and better mobilize students' learning enthusiasm, and improve teaching efficiency and teaching quality.

5.2. Students’ Needs for College Japanese Teaching under Different Teaching Modes. At this stage, college students often have low enthusiasm in the daily process of Japanese learning. The idea of exam-oriented education makes college students not really interested in Japanese learning. However, compared with other courses, the Japanese course is more complex, and the meaning of the same word in different context grammar is not necessarily the same, so it has a great challenge for students’ memory difficulty, which virtually increases the difficulty of learning and the burden of learning. This situation makes college students feel the great challenge and pressure of learning Japanese and gradually produce negative thoughts. This study evaluates and analyzes the demand data of students for college Japanese teaching under two different teaching modes, and Table 2 is obtained.

Table 2 shows the comparative data of students’ needs for college Japanese teaching under two different teaching modes. From the analysis and comparison of students’ three learning modules such as reading, practice, and test, it can be seen intuitively that the college Japanese teaching system under the online teaching mode of Moodle platform can better meet the current needs of college students to learn Japanese.

In order to more clearly reflect the design and implementation of college Japanese teaching interaction system, the analysis and comparison results of students’ needs for college Japanese teaching under different teaching modes are analyzed and compared. The data of students’ needs for college Japanese teaching under two different teaching modes in Table 2 are visualized, and Figure 2 is obtained. Figure 2 shows the evaluation and analysis of students’ needs for college Japanese teaching under two different teaching modes. It can be seen more clearly that the college Japanese teaching system under the online teaching mode of Moodle platform is more in line with the current learning objectives and methods of college students, has more application aspects than under the conventional teaching mode, and can enable students to combine learning with real life. It can more effectively stimulate students’ interest in learning and then further improve students’ application level of Japanese language.

5.3. Teachers’ Needs for College Japanese Teaching under Different Teaching Modes. At present, in the process of classroom education and teaching of college Japanese, there has always been the idea that students have a one-way understanding of learning. Teachers only focus on theoretical knowledge in the curriculum system, do not take students as the main body of learning, and do not give reasonable guidance to students in the practice of the interactive system of college Japanese education and teaching. This leads to teachers’ lack of emotional input in the process of education and teaching, which makes students feel bored in the classroom and lack concentration in the classroom, which will make students unable to mobilize their enthusiasm and generate interest and passion in learning. In this case, it will not only affect the effect of teachers in the process of college Japanese classroom education and teaching but also produce a
certain learning burden on students, resulting in the low actual teaching efficiency of teachers. Through the analysis and comparison of the design and implementation of college Japanese teaching interactive system by teachers under two different teaching modes, the results show that the college Japanese teaching system under Moodle platform online teaching mode is more suitable for teachers’ application and demand in all aspects than that under conventional teaching mode. According to the college Japanese teaching system, by analyzing and comparing the comparative data of teachers’ needs for college Japanese teaching under two different teaching modes, Table 3 is obtained.

Table 3 shows the comparative data of teachers’ needs for college Japanese teaching under two different teaching modes. From the evaluation and analysis of teachers’ pre-class preparation, classroom teaching, and after-class expansion, it can be seen intuitively that the college Japanese teaching system under Moodle platform online teaching mode can better meet the current teachers’ innovative thinking on education and teaching modules. It can enable students to receive higher quality learning.

According to the college Japanese teaching system in Table 3, the demand analysis of teachers for college Japanese teaching under different teaching modes is visualized, and Figure 3 is obtained.

Figure 3 shows the evaluation and analysis of teachers’ needs for college Japanese teaching under two different teaching modes. It can be seen more clearly that the college Japanese teaching system under the online teaching mode of Moodle platform can better innovate the concept and teaching mode of college Japanese education and teaching, find the problems existing in the actual teaching process, be based on the actual education and teaching situation, make the teaching of the course more detailed so that students understand the importance of learning Japanese, and can better promote the comprehensive and all-round development of students on the basis of improving the teaching quality.

5.4. Functional Requirements for College Japanese Teaching under Different Teaching Modes. In the reform of college Japanese education and teaching system, the core content is to reform and innovate the education and teaching mode. We should make full use of network technology, multimedia technology, and database technology to design and realize the interactive system of college Japanese teaching, so as to construct the education and teaching mode of personalized learning and interactive learning. Cultivating and improving college students’ ability to use the comprehensive and practical language of Japanese is the trend of the reform of college Japanese education and teaching system. Based on Moodle platform, the demand data of college students and teachers for college Japanese teaching under two different teaching modes are compared and analyzed, and Table 4 is obtained.

In Table 4, through the comparative data of the two groups of different teaching modes and the evaluation and analysis from the aspects of questionnaire survey, special discussion, course news, and external resources in the university Japanese teaching interactive system, it can be seen that the university Japanese teaching system under the online teaching mode of Moodle platform is far
superior to the conventional teaching mode in all aspects. It shows that the college Japanese education and teaching system based on Moodle platform online teaching mode is more in line with the design and implementation of college Japanese teaching interactive system at this stage.

In order to more intuitively reflect the design and implementation of college Japanese teaching interaction system, the demand analysis and comparison results of functionality on college Japanese teaching under different teaching modes are compared. The demand data of

Table 3: Data of teachers’ demand for college Japanese teaching under different teaching modes.

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Lesson preparation before class</th>
<th>Classroom teaching</th>
<th>After class development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional teaching mode</td>
<td>69.80%</td>
<td>72.80%</td>
<td>65.60%</td>
</tr>
<tr>
<td>Moodle online teaching mode</td>
<td>89.40%</td>
<td>92.40%</td>
<td>87.60%</td>
</tr>
</tbody>
</table>

Figure 3: Visualization of teachers’ needs for college Japanese teaching under different teaching modes.

Table 4: Functional requirements for college Japanese teaching under different teaching modes.

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Questionnaire investigation</th>
<th>Thematic discussion</th>
<th>Course news</th>
<th>External resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional teaching mode</td>
<td>61.90%</td>
<td>65.90%</td>
<td>63.80%</td>
<td>64.70%</td>
</tr>
<tr>
<td>Moodle online teaching mode</td>
<td>85.20%</td>
<td>86.50%</td>
<td>89.20%</td>
<td>87.90%</td>
</tr>
</tbody>
</table>

Figure 4: Visualization of functional requirements for college Japanese teaching under different teaching modes.
functionality on college Japanese teaching under two different teaching modes in Table 4 are visualized, and Figure 4 is obtained. figure 4 shows the evaluation and analysis of the functional requirements for college Japanese teaching under two different teaching modes. It can be seen more clearly that the college Japanese teaching system under the online teaching mode of Moodle platform is more suitable for the needs of the current era. As a new teaching mode, the college Japanese teaching interactive system is full of personalization, openness, and autonomy. At the same time, it changes the learning type from one-way learning type to infinite learning type.

6. Summary

In recent years, various colleges and universities in China have launched Japanese online teaching platforms with their own characteristics. However, a comprehensive analysis of the Japanese online learning platforms generally ignores the organization and management of teaching resources, resulting in the isolation and closure of learning resources. The lack of communication and interaction between teachers and students leads to the failure to achieve the expected teaching results. The teaching content is old, the update is slow, and the interconnection is not smooth, which makes the textbooks lag behind the times. With the wide application of Internet technology, great changes have taken place in the traditional teaching environment. Therefore, in the process of carrying out college Japanese teaching, we must optimize our own classroom teaching strategies from the background of the network environment to improve the teaching level. This study compares and analyzes the data of the design and implementation of the teaching system from the application of two different teaching modes. On the basis of studying and reforming the college Japanese teaching system, the two teaching modes are evaluated and compared by using the Moodle platform online teaching mode and the conventional teaching mode. It is considered that the college Japanese education and teaching system based on Moodle platform online teaching mode has more advantages than the previous conventional teaching mode, which makes students in the “master” position in the learning process, can greatly stimulate students’ autonomy and enthusiasm in learning, and more effectively provides specific methods and strategies in the process of teacher education and teaching. Moodle platform online teaching mode has established an effective and highly interactive online learning environment; it can expand learning space, break classroom barriers, promote students’ personality development and ability improvement, and significantly improve teaching efficiency so that college students can get high-quality distance learning and provide more diversified talents for the society.

Data Availability

The data underlying the results presented in the study are available within the manuscript.

Conflicts of Interest

The author declares there is no potential conflict of interest.

Acknowledgments

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