

Concepts and Principles of Online Basketball Courseware: A Prelude to Design

He Ren*, Sabrina Brineth Albarina Ramos

University of Baguio, Baguio 2600, Philippines

* Corresponding author

Abstract: In the context of the increasing level of modernization and development of China's society as well as the comprehensive depth of the educational reform process, network information technology, by virtue of its own diversified advantages, has been widely used in education and teaching work, through the comprehensive use of text, sound, image, action and other functions, can make the professional teaching courses with lively, direct and clear, sound and feeling characteristics. The content of the article is analyzed by using the literature method and mathematical statistics. This article takes network basketball teaching as an example, analyzes the concept of specific teaching courseware as well as the principles in detail, and clearly understands that network basketball teaching courseware should be aimed at stimulating students' enthusiasm for learning, realizing the concept of personalized education, and displaying integrated and diverse as well as interactive features. Only by continuously improving students' basketball knowledge and sports skills can we lay a solid foundation for students' healthy physical and mental development.

Keywords: Internet Basketball; Instructional Courseware; Concepts; Principles; Functions.

1. Introduction

After China has fully entered the era of information technology, the level of science and technology development is accelerating, although it can provide technical support for the realization of innovation and development of all walks of life, but it also brings more severe tests.

Modern science and technology with high-speed network and computers as the core have provided positive help to change the traditional exam-oriented education mode, and fully integrated network technology with basketball teaching. With the help of special educational advantages, students' learning interests have been fully stimulated and learning channels have been more abundant. With the help of massive storage space, computer network can bring direct sensory influence on students so that under the influence of interactive characteristics of network technology, students can use basketball teaching to obtain more professional knowledge and skills.

Influenced by the characteristics of basketball teaching, network basketball courseware has a natural advantage in stimulating students' enthusiasm for participation and improving students' interest in learning. Network basketball teaching courseware can properly solve the problems of monotonous and boring content in traditional basketball teaching mode. Through active interaction with students, relevant content is played for students to deepen students' learning interest, digestion level and mastery of basketball knowledge and skills.

The study seeks to understand and master the concept, principles, and functions of online basketball teaching courseware as a prerequisite to creating an online basketball course design. Specifically, it aims to determine the current status of the application of network basketball courseware, the level of satisfaction of college students with their current basketball courseware, the need of college students for basketball courseware, and gather suggestions from the respondents for the design of basketball courseware.

The study is motivated by the recognition that China's advancement into the information technology era has accelerated the development of science and technology, presenting both opportunities and challenges. While technology can support innovation and development, it also requires new educational approaches. The integration of high-speed networks and computers has the potential to transform traditional exam-oriented education and enhance teaching methods, such as in basketball teaching. The study recognizes the benefits of technology in stimulating student interest and providing more engaging learning channels. By understanding the current application and satisfaction levels of network basketball courseware, the study aims to address the limitations of traditional teaching methods and improve the design of courseware to better meet the needs of college students.

1.1. Literature Review

The literature on online teaching methods and strategies for public sports basketball elective courses in colleges and universities offers a comprehensive view of the evolving educational landscape, particularly in the context of modern technological advancements. Considering China's rapid integration into the information technology era, the realm of sports education has witnessed a transformation, necessitating innovative approaches to teaching and learning. This review explores various studies that delve into the application of online and mixed teaching modes, highlighting their advantages, challenges, and potential impact on basketball education.

1.2. Online Teaching Methods

The literature on online teaching methods and strategies for public sports basketball elective courses in colleges and universities provides valuable insights into the current landscape of educational practices. Liang and Chen (2022) emphasize the importance of offline teaching, particularly in the context of the current epidemic, while also discussing the

advantages and disadvantages of online teaching. They suggest effective strategies such as utilizing multiple media resources and interactive teaching methods to enhance the online learning experience.

1.3. Application of Online and Offline Mixed Teaching

Hu and Deng (2011) focus on the application value and construction mode of online and offline mixed teaching in youth basketball teaching. They propose concrete implementation steps and strategies for this teaching mode, highlighting the importance of establishing an online teaching platform and designing engaging course content.

1.4. Practical Research of Basketball Teaching Reform

Liu (2019) discusses the practical research of basketball teaching reform in application-oriented undergraduate colleges, emphasizing the use of Internet technology to improve teaching efficiency and student interest. Similarly, Wu (2021) explores the teaching design and implementation of a special basketball course in high school, advocating for a teaching concept that emphasizes frequent practice and competition.

1.5. Construction of College Basketball Teaching Network Platform

Zhu (2021) delves into the construction of a college basketball teaching network platform under the background of big data, highlighting the necessity and feasibility of such a platform. Sun (2023) expands on this by discussing the mode of college basketball teaching and training under the network environment, suggesting new ideas and methods for teaching and training in this context.

1.6. Analysis and Design of Network Teaching System

Qi (2020) reviews the analysis and design of a network teaching system for public physical education theory courses in colleges and universities. The system's design principles and implementation methods are discussed, emphasizing its ability to improve students' learning interest and promote independent learning.

1.7. Challenges and Solutions in Offline Teaching During COVID-19

Taking the College of Sports Science of Tianjin Normal University as an example, Wang and Zuo (2022) discuss the difficulties and countermeasures faced by teaching on the offline background of COVID-19 prevention and control. They highlight the impact of the epidemic on college education and the rise of online teaching, as well as provide suggestions for overcoming technical problems and optimizing course design.

These studies collectively underscore the potential of online and mixed teaching modes to enhance basketball teaching in various educational settings. They provide valuable insights into effective strategies and technologies that can be leveraged to improve teaching outcomes and student engagement in basketball courses.

2. Theoretical Framework

2.1. Cognitive Load Theory

Elucidated by Sweller (2020), which provides a framework for understanding how the human mind processes information and how this processing affects learning. According to cognitive load theory, there are three types of cognitive load: intrinsic, extraneous, and germane. Intrinsic load refers to the inherent difficulty of the material being learned, such as understanding complex basketball strategies. Extraneous load pertains to the cognitive load imposed by the instructional materials or the way they are presented. For instance, poorly designed online courseware that is cluttered with irrelevant information can increase extraneous load. Germane load is the cognitive load related to the process of learning itself, representing the effort required to organize and integrate new information into existing knowledge structures.

In the context of the study on online basketball teaching courseware, CLT can be utilized to enhance the design and delivery of the courseware. Understanding the principles of cognitive load theory can help developers minimize extraneous cognitive load by presenting information in a clear and organized manner. For example, developers can use multimedia elements strategically to support learning without overwhelming students. Additionally, cognitive load theory can guide the design of activities that promote the application of new knowledge, thereby increasing germane load and facilitating learning. Janssen and Kirschner (2020) suggest that CLT can also be applied to computer-supported collaborative learning (CSCL). By considering the cognitive load imposed by collaborative tasks, developers can design online collaborative activities that are cognitively engaging and effective. This approach aligns with the goal of the study to understand and master the concept, principles, and functions of online basketball teaching courseware.

Skulmowski and Xu (2022) provide a new perspective on extraneous cognitive load in digital and online learning, emphasizing the importance of minimizing extraneous load by designing learning environments that are intuitive and user-friendly. This perspective can inform the design of online basketball teaching courseware to ensure that it is accessible and easy to navigate for students, thereby reducing cognitive load and enhancing learning outcomes. Overall, cognitive load theory offers valuable insights for designing effective online basketball teaching courseware by optimizing cognitive load to facilitate learning and improve student engagement.

2.2. Technology Acceptance Model

It is a theoretical framework that explains how users come to accept and use a new technology. According to technology acceptance model, perceived usefulness (PU) and perceived ease of use (PEOU) are key determinants of an individual's intention to use a technology, which in turn influences actual technology usage.

Al-Rahmi et al. (2021) investigated the influence of information system success and technology acceptance model on social media factors in education. Their study demonstrated that technology acceptance model can be used to understand and predict the adoption of social media platforms for educational purposes. Similarly, Fearnley and Amora (2020) applied an extended TAM to study the adoption of Learning Management Systems (LMS) in higher education. Their findings highlighted the importance of perceived

usefulness and ease of use in determining LMS adoption among educators.

Jang et al. (2021) explored the use of augmented reality (AR) and virtual reality (VR) for learning, using an extended technology acceptance model. Their study revealed that perceived enjoyment and social influence are additional factors that influence users' acceptance of AR and VR technologies for learning purposes. Ren et al. (2022) studied the factors influencing Chinese college students' intention to use metaverse technology for basketball learning, extending the technology acceptance model. Their findings indicated that perceived usefulness, ease of use, social influence, and perceived enjoyment significantly influence students' intention to use metaverse technology for learning.

In the context of the study on online basketball teaching courseware, technology acceptance model can be applied to understand students' acceptance and intention to use the courseware. By assessing students' perceptions of the usefulness and ease of use of the courseware, educators and developers can identify areas for improvement and design courseware that better meets students' needs and expectations. The technology acceptance model can also help predict the adoption and success of the courseware, ultimately leading to more effective teaching and learning experiences.

2.3. Significance of the Study

The study on online basketball teaching courseware is significant as it stands to benefit students, educators, and educational institutions.

For students, the adoption of online courseware promises an enriched learning experience through access to multimedia resources and interactive materials that deepen their understanding of basketball concepts. Additionally, the flexibility and accessibility of online learning enable students to engage with course content at their own pace and convenience, catering to diverse learning styles. This personalized approach not only enhances student engagement and motivation but also fosters improved learning outcomes.

Educators, on the other hand, stand to gain from the innovative tools and resources offered by online courseware, empowering them to deliver more effective teaching. Features such as data-driven insights and analytics provide educators with valuable feedback on student progress, enabling them to tailor their teaching strategies to meet individual student needs. Moreover, online courseware can streamline administrative tasks, allowing educators to focus more on teaching.

For educational institutions, the adoption of online courseware can lead to increased access and cost-effectiveness. Institutions can expand their reach to a broader audience of students while minimizing infrastructure costs associated with traditional classroom-based instruction.

2.4. Objectives of the Study

This research aimed to understand and master the concept, principles, and functions of online basketball teaching courseware as a prerequisite to creating an online basketball course design. Specifically, this study aimed:

- 1) To determine the current status of the application of network basketball courseware.
- 2) To determine the level of satisfaction of the college students on their current basketball courseware.
- 3) To determine the need of college students for basketball courseware.

- 4) To gather suggestions from the respondents for the design of basketball courseware.

3. Methodology

3.1. Study Design

This study employs a mixed-methods approach, combining both quantitative and qualitative methods, to provide a comprehensive understanding of the effectiveness of online basketball teaching courseware. The use of both methods allows for a more nuanced exploration of the research questions, capturing both the quantitative data on user satisfaction and usage patterns, as well as the qualitative insights into user experiences and perceptions.

For the quantitative component of the study, a survey questionnaire will be administered to college students enrolled in basketball courses. The questionnaire will assess the level of satisfaction of students with their current basketball courseware. The survey will also gather data on students' usage patterns and perceptions of the effectiveness of the courseware in enhancing their learning experience. This method is deemed appropriate as it allows for the collection of numerical data that can be analyzed statistically to identify patterns and trends related to student satisfaction.

3.2. Population and Locale of the Study

In this study, a simple random sampling method was adopted to select the respondents for the research questions, ensuring that every individual had an equal chance of being selected, thereby minimizing bias and enhancing the generalizability of the findings. Simple random sampling was appropriate for this study because it ensures that the sample represents the population well, allowing for generalizations to be made about the entire population of basketball teachers and students. This method is particularly suitable when the population is homogeneous, and the researcher aims to achieve a high degree of representativeness and reduce selection bias.

Simple random sampling was used to choose the teacher respondents. A total of 25 basketball teachers were selected from the Baicheng Physical Education Institute. The teachers were chosen based on their involvement and influence in basketball teaching within the institution. The inclusion criteria for teachers required them to be actively involved in teaching basketball courses at the Baicheng Physical Education Institute and to have at least one year of teaching experience in basketball. Teachers not currently teaching basketball courses or with less than one year of teaching experience in basketball were excluded.

Similarly, the student respondents were chosen through simple random sampling. The sample size of student respondents was calculated using the Slovin formula, which ensures a representative sample size based on the total population and desired margin of error. Out of 500 basketball student respondents, 223 students were chosen. The inclusion criteria for students required them to be enrolled in basketball courses at the Baicheng Physical Education Institute and to have participated in the courses for at least one semester. Students not enrolled in basketball courses or those with less than one semester of participation in basketball courses were excluded.

The respondents for the interview questions were chosen using purposive sampling, a method that allows for the selection of individuals who are most likely to provide rich,

relevant, and diverse data. The inclusion criteria for interview respondents included teachers and students who have shown a keen interest and active participation in basketball courses and are willing to share their experiences in detail. Individuals who were not actively engaged or unwilling to participate in the interview process were excluded.

The Baicheng Physical Education Institute was chosen as the locale for this study due to its central role in the research context. The Institute accommodates all interested groups, including basketball teachers and students directly involved in or influenced by basketball teaching. Conducting research within this institution ensures direct access to the participants, allowing for an in-depth exploration of their experiences and perceptions. The choice of this locale was also driven by its comprehensive basketball program, which provided a rich environment for gathering relevant data. This methodological approach ensured that the study captured a broad spectrum of insights from both teachers and students, contributing to a thorough understanding of the effectiveness of online and mixed teaching modes in basketball education.

3.3. Data Gathering Tools

In this study, the main data collection tool was a self-designed questionnaire survey, complemented by semi-structured interviews to ensure a thorough exploration of the research questions. The questionnaire included 14 questions addressing awareness, usage, and perceptions of online basketball courseware. Validity was ensured through expert reviews and pilot testing, while reliability was confirmed with Cronbach's alpha. These tools were meticulously designed to capture both quantitative and qualitative data effectively.

The semi-structured interviews provided deeper insights into respondents' experiences and perceptions, with participants selected via purposive sampling based on their active participation in basketball courses. Inclusion criteria required active involvement and willingness to share detailed experiences, while those not actively engaged or unwilling to participate were excluded.

3.4. Data Gathering Procedure

The data collection procedure for this study began with the design of a comprehensive questionnaire, carefully crafted to address the research questions. To improve content validity, the questionnaire was reviewed by experts who incorporated valuable insights from experienced researchers and educators.

Next, a pilot test was conducted on a small group of participants, different from the final sample, to assess the clarity and validity of the questions. Based on the feedback from the pilot test, adjustments were made to ensure the reliability of the questionnaire.

Following the refinement of the questionnaire, potential participants were approached and informed of the purpose and significance of the study. Voluntary participation and confidentiality were emphasized, and informed consent was obtained from each participant.

Once the questionnaire was finalized, it was distributed with clear instructions for completion. The data collection phase included the careful retrieval of completed questionnaires within a specified time frame.

Throughout the entire process, the code of ethics was strictly observed, and the privacy of participants was prioritized. After the data collection was complete, the analysis phase began, employing appropriate statistical methods for quantitative data and thematic analysis to gain

qualitative insights.

3.5. Treatment of Data

The data for each objective in this study were treated using frequency analysis, which involved counting the responses to each question and presenting them as frequencies and percentages. This method was applied consistently across all objectives to quantify the responses and gain a clear understanding of the trends within the data. For Objective One, the frequency of responses regarding awareness and usage of online basketball courseware was tallied. For Objective Two, the satisfaction levels and perceived benefits of the courseware were analyzed in terms of frequencies. Objective Three involved counting responses to identify areas for improvement in the courseware, and for Objective Four, preferences for features and formats of the courseware were quantified.

3.6. Ethical Considerations

In conducting this study, ethical considerations were strictly observed, prioritizing the health, confidentiality, and rights of participants. The ethical framework guiding this study was based on principles such as informed consent, ensuring that participants receive comprehensive information about the purpose of the study, its procedures, and the potential risks and benefits. The voluntary and non-mandatory informed consent of each participant were sought, and the guaranteed right to withdraw from the study at any time without consequences were considered essential.

Confidentiality was a core principle of the research process and the data collected, including questionnaires, were handled with maximum confidentiality.

Participants were assigned codes or identifiers to anonymize their contributions, and only the researcher had access to the raw data. Privacy measures were also extended to the secure storage and transmission of data, using encryption for digital data, and keeping physical records in locked and secure locations. The researcher was committed to the responsible retention and secure disposal of data in compliance with data protection regulations.

Transparency and honesty characterized interactions with participants, who received clear and truthful information about research intentions, potential impacts, and expected outcomes. Any restrictions or potential conflicts of interest were publicly disclosed.

As a commitment to ethical research practice, the dissemination of results will be carried out in an accurate and transparent manner. Research results will be shared with institutions at the research site, providing valuable insights into the knowledge base of the local academic community.

The final study report will remain confidential, exclude any identifying information about individual participants, and will not be publicly disseminated. Ongoing ethical reflection and adherence to these ethical considerations guided every stage of the research process, ensuring the integrity and ethical soundness of the research.

3.7. Results and Discussion

This section discusses the results and analysis of the findings of the survey.

Table 1. Awareness and Usage of Online Basketball Courseware

Question	Response Option	Freq.	Percentage (%)
Do you know about online basketball courseware?	Yes	180	80.7
	No	43	19.3
Have you ever used online basketball courseware?	Yes	150	67.3
	No	73	32.7
Which online basketball courseware have you used?	Basketball Teaching Network	60	26.9
	Basketball Class	50	22.4
	Online Basketball Coach	40	17.9
	Others	20	9.0
	None	53	23.8

The results in Table 1 show a high level of awareness (80.7%) and usage (67.3%) of online basketball courseware among the respondents. This indicates that the digital resources for basketball education are well-known and utilized within the target population. The high awareness and usage levels suggest that online basketball courseware has become a significant tool in basketball education, enhancing access to learning materials and supporting diverse learning preferences.

The strongest point is the high awareness of online basketball courseware, indicating effective dissemination and recognition of these resources. This suggests that promotional efforts and the availability of these resources are successful, making them a key component in the educational toolkit. The weakest point is the 32.7% of respondents who have never used online basketball courseware, highlighting a potential barrier to adoption. This may indicate issues such as lack of access, technological barriers, or preference for traditional learning methods, which need to be addressed to ensure broader usage.

These findings align with Liang and Chen (2022), who noted the increasing importance and adoption of online teaching resources in sports education, particularly during the COVID-19 pandemic when traditional face-to-face teaching was limited.

Table 2. Perceived Benefits and Satisfaction with Online Basketball Courseware

Question	Response Option	Freq.	Percentage (%)
Satisfaction with the courseware	Very satisfied	50	22.4
	Satisfied	120	53.8
	Not satisfied	40	17.9
	Very dissatisfied	13	5.8
Effect on basketball skills	Very effective	45	20.1
	Effective	130	58.3
	Generally effective	35	15.7
	Ineffective	13	5.8
Interest in basketball	Very high	55	24.7
	Certain effect	115	51.6
	Generally effective	40	17.9
	Ineffective	13	5.8
Teamwork ability improvement	Very high	50	22.4
	Certain effect	120	53.8
	Generally effective	40	17.9
	Ineffective	13	5.8
Physical fitness improvement	Very high	45	20.1
	Certain effect	125	55.6
	Generally effective	35	15.7
	Ineffective	13	5.8

The data presented in Table 2 indicate that the majority of

respondents expressed satisfaction with online basketball courseware, with 53.8% being satisfied and 22.4% very satisfied. Additionally, most respondents found the courseware effective in improving basketball skills, interest, teamwork, and physical fitness. High levels of satisfaction and perceived effectiveness indicate that online basketball courseware is meeting the educational needs of students, contributing positively to their learning experiences and outcomes.

The strongest point is the high satisfaction rate (76.2% combined for "very satisfied" and "satisfied"), demonstrating that the courseware is well-received and effective in its purpose. This suggests that current online basketball courseware is adequately designed to meet user expectations and educational goals. The weakest point is the 5.8% of respondents who found the courseware ineffective, highlighting areas that may require improvement. Identifying and addressing the reasons behind this dissatisfaction can help in refining and enhancing the effectiveness of the courseware.

These findings are consistent with Liu (2019), who emphasized the potential of Internet technology to enhance teaching efficiency and student interest in basketball education.

Table 3. Areas for Improvement in Online Basketball Courseware

Question	Response Option	Freq.	Percentage (%)
Helpfulness for learning basketball skills	Improve basic movement skills	170	75.8
	Learning tactics and strategies	160	71.7
	Strengthen physical fitness training	150	67.3
	Cultivate teamwork ability	145	65.0
	Others	20	9.0
What should be improved	Timeliness of content update	165	73.9
	Video quality and clarity	150	67.3
	Interactive features	140	62.8
	Autobiography	20	9.0
	Teaching methods	135	60.5
	Effectiveness evaluation	130	58.3
	Others	25	11.2

Table 3 shows that respondents highlighted several areas for improvement in online basketball courseware, with the most frequently mentioned being the timeliness of content updates (73.9%) and video quality and clarity (67.3%). Addressing these areas can significantly enhance the user experience and effectiveness of the courseware, ensuring it remains current, engaging, and of high quality. The strongest point is the recognition of the benefits in improving basic skills and tactics, indicating that the core content of the courseware is valuable. This suggests that the foundational aspects of the courseware are effective, but there is room for enhancement in delivery and engagement features.

The weakest point is the need for better interactivity and teaching methods, highlighting areas where the courseware can be improved. Enhancing interactivity and refining teaching methods can lead to a more engaging and effective learning experience. These findings align with Hu and Deng (2011), who emphasized the importance of engaging course content and effective online platforms in sports education.

Table 4 indicates that the majority of respondents preferred real-time online teaching (71.7%) and personalized learning plans (67.3%), with a strong preference for video teaching (80.7%). These preferences indicate a strong demand for dynamic and interactive learning experiences that are tailored

to individual needs and supported by high-quality visual content. The strongest point is the high preference for video-based teaching, suggesting that visual and interactive content is highly effective.

Table 4. Preferences for Features and Formats of Online Basketball Courseware

Question	Response Option	Freq.	Percentage (%)
Desired functions	Real-time online teaching	160	71.7
	Personalized learning plans	150	67.3
	Match video analysis	145	65.0
	Introduction to basketball culture	140	62.8
	Basketball star interviews	135	60.5
	Others	25	11.2
Preferred format	Video teaching	180	80.7
	Text description	60	26.9
	Picture display	50	22.4
	Interactive learning	140	62.8
	Gamified design	130	58.3
	Others	20	9.0
Suitability for learning habits	Fits perfectly	55	24.7
	Can adapt	120	53.8
	Prefer traditional	40	17.9
	Can't adapt	13	5.8
Suggestions for development	More interactivity	160	71.7
	Combat exercises	150	67.3
	Professional guidance	145	65.0
	Collaboration with offline institutions	140	62.8
	Others	25	11.2

This implies that enhancing video content and incorporating interactive elements can significantly improve the learning experience. The weakest point is the lower preference for text-based content, indicating a need for more dynamic formats. Shifting towards more engaging and interactive formats can better meet learner preferences and enhance educational outcomes. These preferences align with current educational trends emphasizing interactive and personalized learning experiences, as discussed by Janssen and Kirschner (2020), and Skulmowski and Xu (2022).

4. Conclusion and Recommendations

4.1. Conclusion

1) There is a high level of awareness and substantial usage of online basketball courseware among the target population, indicating successful dissemination and adoption of these digital educational resources.

2) Majority users are satisfied with online basketball courseware, finding it effective in enhancing various aspects of basketball education, which reflects its positive impact on students' learning experiences.

3) Key areas such as content timeliness and video quality need improvement, suggesting that addressing these aspects could significantly enhance the overall effectiveness and user satisfaction of the courseware.

4) There is a strong preference for interactive and personalized features, particularly real-time online teaching and video-based content, indicating a need for more dynamic and engaging learning formats in future developments.

4.2. Recommendations

Based on the findings, the researcher would like to recommend the following:

1) Increase efforts to promote the usage of online basketball courseware among the remaining 32.7% of the target

population have not yet adopted it should be considered. This can be achieved through targeted marketing campaigns, demonstrations, and providing easier access to the technology.

2) Aspects of online basketball courseware that users find effective, such as skill improvement, interest cultivation, and teamwork development should be maintained or further enhanced. Regular updates and improvements based on user feedback can help sustain high satisfaction levels.

3) Improving the timeliness of content updates and enhancing video quality and clarity must be targeted. Incorporating more interactive features and refining teaching methods will also address the identified weaknesses and improve user engagement and learning outcomes.

4) More interactive and personalized features, such as real-time online teaching and video-based content must be developed and integrated. Emphasize dynamic and engaging formats to align with user preferences and enhance the overall learning experience.

References

- [1] Liang, P. & Chen, H. (2022). Research on the theory and practice of network information resources [M]. Beijing: China Books Publishing House.
- [2] Hu, C. & Deng, S. (2011). Digital information service [M]. Wuhan: Wuhan University Press.
- [3] Liu, Y. (2019). Research on Modern Basketball [M]. Beijing: People's Sports Publishing House.
- [4] Janssen, J., & Kirschner, P. A. (2020). Applying collaborative cognitive load theory to computer-supported collaborative learning: Towards a research agenda. *Educational Technology Research and Development*, 68(2), 783-805.
- [5] Skulmowski, A., & Xu, K. M. (2022). Understanding cognitive load in digital and online learning: A new perspective on extraneous cognitive load. *Educational psychology review*, 34(1), 171-196.
- [6] Sun, M. (2023). Ball games. Basketball [M]. Beijing: Higher Education Press. (31).
- [7] Szulewski, A., Howes, D., van Merriënboer, J. J., & Sweller, J. (2021). From theory to practice: the application of cognitive load theory to the practice of medicine. *Academic Medicine*, 96(1), 24-30.
- [8] Qi, L. (2020). Research on Educational characteristics of the Open University in the United Kingdom [D]. Shaanxi Normal University, (2): 61-62.
- [9] Wang, X. & Zuo, W. (2022). Construction of network information resources for sports event management [J]. *Journal of Capital Institute of Physical Education*:(06):3-8.
- [10] Wu, Z. (2021). Research on the status quo and development causes of online educational information resources in the United States [D]. Shanghai Normal University. (02):7-14.
- [11] Zhang, J. (2021). Review of Symposium on Construction and Sharing of Educational resources [J]. *China Audio-visual Education*: (10):80-86.
- [12] Zhu, Z. (2021). Modern Educational Technology -- Towards Information-based Education [M]. Beijing: Educational Science Press.
- [13] Xu, X. (2020). Research on the design of online courses under the guidance of modern education theory (Unpublished doctoral dissertation). Shandong Normal University.