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Article

Optimization of university students' entrepreneurial ability cultivation and biomechanics—Based knowledge sharing environment

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Abstract: In the current information age, knowledge sharing, as one of the core features, provides a new perspective for innovation and entrepreneurship education (IEE) innovation. This study aims to explore the process of cultivating university students' entrepreneurial ability, optimize the knowledge sharing environment by establishing a specialized biomechanics knowledge sharing platform, strengthen the proportion of practical teaching in biomechanics-related majors, integrate the latest research results and innovation cases in biomechanics into the innovation and entrepreneurship education, stimulate the students' innovation interest and entrepreneurial awareness, and further promote the college students in biomechanics field to further development of IEE for college students in the field of biomechanics.. By using the research methods of literature review, questionnaire survey, multiple linear regression and structural equation model, this article analyzes the influence of knowledge sharing environment on students' entrepreneurial will, biomechanics application ability and overall educational effect after incorporating biomechanics concept. It is found that the various complex problems faced in biomechanics research provide opportunities for college students to cultivate innovative thinking and problem-solving abilities; for example, by introducing the application of biomechanics in medical devices, sports science, biomedical engineering and other fields, students are guided to think about how to develop new products or services using biomechanical principles, thus cultivating their innovative thinking and entrepreneurial spirit. the frequency of dissemination and application of biomechanical knowledge in the knowledge sharing mechanism is positively related to students' entrepreneurial intention, which plays a significant role in improving the biomechanical knowledge and utilization of the students in the process of entrepreneurship. Carrying out biomechanics-related entrepreneurship programs can cultivate the teamwork ability of college students. In the entrepreneurial process, students from different professional backgrounds, such as biomechanics majors, engineering majors, marketing majors, etc., need to work together to transform biomechanical research results into actual products and market them. This kind of inter-disciplinary teamwork can exercise the communication and coordination ability, resource integration ability and team management ability of college students. The results of this study not only confirm the positive effect of biomechanics-based knowledge sharing mechanism based on biomechanics on IEE, but also provide theoretical support and practical guidance for tertiary education institutions on how to optimize the knowledge sharing environment and improve the quality of entrepreneurship education.

Keywords: tertiary education; biomechanics; knowledge sharing; university students; entrepreneurial ability; innovation and entrepreneurship education

1. Introduction

In today's era of global knowledge economy, innovation and entrepreneurship have become important engines to promote social progress and economic development. As a key link to cultivate high-quality talents and foster innovative

thinking, tertiary education bears the heavy responsibility of transporting young talents with innovative spirit and practical ability for the country and society [1]. In the face of rapidly changing market demand, increasingly fierce international competition and emerging technologies, the traditional tertiary education model is facing unprecedented challenges [2]. How to promote the in-depth development of university students' IEE has become an important topic in the current education reform. Knowledge sharing is one of the core features of the information age, which provides a new perspective for the innovation of IEE [3]. In this condition, the knowledge of biomechanics will help a lot in many aspects, for example, in sports, medical rehabilitation systems and plants, etc. In the field of tertiary education, knowledge sharing is related to the open access to academic resources, but also involves the transformation of teaching concepts, the innovation of educational models and the reconstruction of learning ecology [4]. It emphasizes the mobility, interactivity and regeneration of knowledge, encourages knowledge exchange and cooperation between teachers and students, between schools and even across borders, and injects new vitality into IEE [5].

It is particularly urgent to explore how the knowledge sharing mechanism of tertiary education can help university students with IEE. Although tertiary education institutions at home and abroad have explored the practice of knowledge sharing in recent years, the effects of these practices in promoting IEE are significantly different [6]. The mechanism and influencing factors behind it need to be deeply analyzed. With the help of theoretical analysis and empirical research, we can reveal the specific influence of knowledge sharing mechanism on university students' innovative thinking, entrepreneurial ability and practical achievements, and provide scientific basis and practical guidance for educational reform [7].

Theoretically, there is a profound internal relationship between knowledge sharing and IEE. Knowledge sharing promotes the wide spread and deep integration of knowledge and provides a rich resource base for innovation and entrepreneurship [8]. The essence of IEE lies in cultivating students' innovative consciousness, entrepreneurial spirit and practical ability. This process is inseparable from the absorption, integration and innovation of multiple knowledge [9]. Based on this reason, it is of great significance to construct an effective knowledge sharing mechanism to improve the quality and effect of IEE. Knowledge sharing in practice is not a natural process, it is restricted and influenced by many factors [10]. For example, the resource differences between educational institutions, teachers and students' cognition and attitude towards knowledge sharing, the support and compatibility of technology platforms, and the guidance and encouragement of policy environment may all become the key factors affecting the effect of knowledge sharing [11]. Based on this reason, this study will deeply analyze how these factors interact and jointly affect the implementation effect of knowledge sharing mechanism in IEE.

In order to explore the above problems and integrate biomechanical concepts into the research, this study will adopt diversified research methods. First of all, with the help of literature review, this article combs the theoretical research and practical experience of knowledge sharing, biomechanics knowledge and students' IEE at home and abroad, laying a solid foundation for the follow-up research. Secondly,

using empirical research methods such as questionnaire survey and in-depth interview, the real data and valuable opinions of university students, teachers and managers from different universities and professional backgrounds who have a certain understanding of biomechanics are widely collected. Finally, several representative practical cases in biomechanical knowledge sharing are carefully selected, and their successful experiences and existing problems are deeply analyzed, so as to provide practical reference for building a more effective knowledge sharing mechanism that integrates biomechanical characteristics.

Biomechanics, as an interdisciplinary subject, not only brings innovation to sports, medical rehabilitation and other fields, but also provides a new perspective for innovation and entrepreneurship education. By introducing biomechanical knowledge, students are guided to think about how to develop new products or services by using biomechanical principles, so as to cultivate their innovative thinking and entrepreneurial spirit. In order to further deepen this theme, this paper chooses biomechanics as the starting point. Biomechanics, as an interdisciplinary subject, combines the knowledge of physics, engineering, biology and other fields, which is of great significance to promoting scientific and technological innovation and solving practical problems. In innovation and entrepreneurship education, introducing biomechanical knowledge can help students cultivate interdisciplinary thinking and solve complex problems. The wide application of biomechanics in medical treatment, sports science, biomedical engineering and other fields also provides students with rich opportunities for innovation and entrepreneurship. Therefore, biomechanical knowledge has unique value in innovation and entrepreneurship education. The significance of this study is that by analyzing the promotion of tertiary education knowledge sharing mechanism with biomechanics to university students' IEE, it not only helps to enrich relevant theoretical research, but also injects new vitality and perspective into tertiary education reform. Under the dual background of globalization and informatization, this study has far-reaching strategic significance for promoting the internationalization of tertiary education, improving the overall innovation ability of the country and cultivating innovative and entrepreneurial talents with biomechanical literacy. This paper constructs a theoretical framework of knowledge sharing mechanism integrating biomechanical knowledge, including knowledge source, knowledge receiver, knowledge sharing platform and institutional environment, and expounds and demonstrates the interaction and relationship between these components.

2. Theoretical basis and concept definition

2.1. Knowledge sharing and theoretical basis of biomechanics

Knowledge sharing is a core concept in the field of knowledge management. Its theoretical basis is deeply rooted in many disciplines such as management, economics, sociology and biomechanics, which this study pays special attention to. From the perspective of management, knowledge sharing is regarded as a process of knowledge flow and interaction within or between organizations. With the effective exchange, transfer and application of knowledge, the innovation ability and overall competitiveness of the organization can be significantly improved [12]. Economics

emphasizes the key role of knowledge sharing in reducing transaction costs and promoting efficient allocation of resources. Sociology focuses on how knowledge sharing can promote deep interaction and cooperation within the community, thus building a common knowledge system and cultural identity.

In the specific field of tertiary education, knowledge sharing refers to the extensive exchange and sharing of knowledge among educational institutions, teachers, students and external partners [13]. It transcends the one-way knowledge transmission under the traditional education mode and emphasizes the two-way and even multi-directional flow and interaction of knowledge. In this study, the concept of biomechanics is integrated into the theoretical framework of knowledge sharing, and how to use the knowledge sharing of biomechanics to promote university students' understanding and application of biomechanics principles in the process of starting a business, so as to enhance their entrepreneurial ability. On this basis, it aims to break the boundaries of disciplines, promote the deep integration of biomechanics and other disciplines, and provide a new perspective for the cultivation of university students' entrepreneurial ability.

2.2. IEE theory

IEE, as an important direction of tertiary education reform, aims to cultivate students' innovative consciousness, entrepreneurial spirit and practical ability. Its theoretical basis comes from the interdisciplinary integration of pedagogy, psychology, economics and management [14]. From the perspective of pedagogy, IEE is regarded as a new educational model, which emphasizes student-centered and stimulates students' creativity and problem-solving ability with the help of diversified teaching methods such as project-based learning and practical teaching [15]. Psychology, on the other hand, pays attention to the psychological characteristics, motivation and behavior patterns in the process of innovation and entrepreneurship, and discusses how to cultivate students' entrepreneurial mentality and perseverance. Economics and management focus on the economic value and social contribution of IEE, and study how to train future entrepreneurs and entrepreneurs through education.

IEE is not only limited to the formulation of business plans and the training of entrepreneurial skills, but also a multi-dimensional comprehensive education system involving the cultivation of innovative thinking, the stimulation of entrepreneurial spirit, the improvement of practical ability and the acquisition of entrepreneurial resources [16,17]. It requires students to have interdisciplinary knowledge background, keen market insight, effective teamwork ability and continuous innovation ability [18].

2.3. Composition and function of knowledge sharing mechanism in tertiary education

As a bridge connecting knowledge supply and demand, the knowledge sharing mechanism in tertiary education includes knowledge source, knowledge receiver, knowledge sharing platform and institutional environment [19]. These factors

interact with each other to form a complex and dynamic knowledge sharing ecosystem.

The function of knowledge sharing mechanism is mainly reflected in the following aspects: First, with the help of diversified knowledge sharing channels, it promotes the effective dissemination and utilization of knowledge. Second, interdisciplinary knowledge exchange and collision can stimulate innovative thinking and entrepreneurial inspiration. Third, participating in projects and solving practical problems together will help improve practical ability and teamwork ability. The fourth is to promote the close cooperation between colleges and universities, industry and social organizations, so as to build an open and cooperative educational ecology.

2.4. Concept definition

In order to ensure the accuracy and pertinence of this study, several core concepts are clearly defined. "Knowledge sharing" refers to the process of communication, transmission and application of intellectual resources such as knowledge, skills, experience and creativity among different subjects in the tertiary education environment [20]. "IEE" refers to an educational model with the core goal of cultivating students' innovative consciousness, entrepreneurial spirit and practical ability [21]. It provides students with comprehensive IEE and support by means of course teaching, practical activities and school-enterprise cooperation [22]. The "knowledge sharing mechanism of tertiary education" is clearly defined as the sum of a series of systems, platforms, processes and cultural atmosphere carefully constructed to promote knowledge sharing within tertiary education institutions and with external partners [23]. This mechanism plays a vital role in promoting the in-depth development of university students' IEE.

3. Knowledge sharing in tertiary education and the status quo of IEE

3.1. Overview of practice at home and abroad

On a global scale, tertiary education knowledge sharing and IEE practice are in full swing. Many countries and regions have issued relevant policies to encourage knowledge exchange and cooperation among universities, enterprises and social organizations [24,25]. For example, the Massachusetts Institute of Technology (MIT) in the United States, with the help of the Open Course Program (OCW), has made a large number of high-quality educational resources available to the world free of charge, which has greatly promoted the dissemination and sharing of knowledge. With the help of Erasmus + program, Europe supports cross-border educational cooperation and exchange, which provides IEE with a broad international vision.

At home, with the policy of "mass entrepreneurship and innovation" put forward, the field of tertiary education has responded positively and explored effective ways of IEE. Many colleges and universities have established innovation and entrepreneurship colleges, set up courses related to innovation and entrepreneurship, and held various innovation and entrepreneurship competitions to

stimulate students' innovation enthusiasm and entrepreneurial potential [26]. School-enterprise cooperation and integration of production and education have become an important mode to promote the in-depth development of IEE. Many colleges and universities have established close cooperative relations with enterprises, jointly carried out scientific research projects and jointly built internship and training bases, providing students with rich practical opportunities.

3.2. Present situation investigation

In order to have a deeper understanding of the current situation of knowledge sharing and IEE in tertiary education, this study has conducted extensive research. The survey objects include teachers, students and administrators of many universities, covering different academic backgrounds, grades and geographical distribution. The survey results show that the current knowledge sharing and IEE in tertiary education have the following characteristics:

With the rapid development of information technology, the channels of knowledge sharing are increasingly rich. In addition to traditional classroom teaching and academic lectures, new channels such as online course platform, academic forum and social media have become important carriers of knowledge sharing.

Most colleges and universities have set up courses related to innovation and entrepreneurship, and incorporated them into the talent training system. Various innovation and entrepreneurship competitions and business incubation projects emerge one after another, providing students with a platform to show themselves and exercise their abilities.

School-enterprise cooperation has become an important way to promote the further development of IEE. Many universities and enterprises have established long-term cooperative relations, jointly carried out scientific research projects, jointly built internship training bases, and held innovation and entrepreneurship forums. This cooperation mode helps students to get in touch with the market in advance and understand the industry trends.

Although knowledge sharing and IEE in tertiary education have achieved remarkable results, they still face many challenges. For example, the quality of knowledge sharing is uneven, the resources of IEE are unevenly distributed, and students' awareness of innovation and entrepreneurship and practical ability need to be improved.

3.3. Existing problems

In the practice of knowledge sharing and IEE in tertiary education, there are still some problems to be solved urgently:

Some universities lack systematic planning and effective management in knowledge sharing. There are some shortcomings in the platform construction, resource integration and incentive mechanism of knowledge sharing.

Due to regional, economic, cultural and other factors, there are significant differences in IEE resources, teaching staff, practice opportunities and other aspects

in different universities. As a result, some students are not fully supported in innovation and entrepreneurship.

IEE in some universities still stays at the theoretical level and lacks close integration with practice. Although students have mastered relevant theoretical knowledge, they lack practical experience and market insight, so it is difficult to apply what they have learned to practical innovation and entrepreneurship activities.

Some colleges and universities have not yet formed an innovative and entrepreneurial culture atmosphere that encourages innovation and tolerates failure. Students face great psychological pressure and public opinion pressure in the process of innovation and entrepreneurship, and lack enough courage and support to try and take risks.

4. Empirical research design

In order to analyze the practical promotion of tertiary education knowledge sharing mechanism to university students' IEE, a comprehensive empirical research framework is constructed. In order to increase the depth and breadth of data analysis, this paper analyzes the differences in knowledge sharing and innovation and entrepreneurship of students with different professional backgrounds in more detail. This helps to fully understand the performance of students with different professional backgrounds in knowledge sharing and innovation and entrepreneurship education.

4.1. Design by researchers

Based on theoretical analysis and preliminary investigation, the following core assumptions are put forward:

Hypothesis 1: The perfection of knowledge sharing mechanism is positively related to university students' willingness to innovate and start businesses. That is, the more perfect the knowledge sharing mechanism, the stronger the university students' willingness to innovate and start businesses.

Hypothesis 2: Knowledge sharing mechanism can effectively improve university students' entrepreneurial ability. Specifically, students who participate in knowledge sharing activities frequently perform better in innovative thinking, teamwork, problem solving and other key abilities of innovation and entrepreneurship.

Hypothesis 3: Knowledge sharing mechanism has a significant positive impact on the effectiveness of IEE. That is, students who actively participate in knowledge sharing perform better in the success rate of innovative and entrepreneurial projects and entrepreneurial achievements than those who do not participate or participate less in knowledge sharing.

4.2. Research method

In the research method, the strategy of combining quantitative and qualitative research is adopted, with questionnaire survey as the main method, supplemented by in-depth interviews and case studies. The questionnaire survey will cover many colleges and universities in China. With the help of designing a questionnaire

containing multi-dimensional measurement tables, the data of university students on the use of knowledge sharing mechanism, willingness and ability to innovate and start businesses, and the effectiveness of IEE will be collected comprehensively. Futhermore, some questionnaire participants were selected for in-depth interviews, and their views and experiences on the knowledge sharing mechanism and their specific impact on IEE were deeply explored. In addition, several universities with mature knowledge sharing mechanism will be selected as cases, and more detailed and in-depth information will be obtained with the help of on-the-spot investigation and document analysis.

4.3. Sample selection and data collection

In terms of sample selection and data collection, this study adopts stratified random sampling method to ensure the universality and representativeness of samples. It is estimated that 2000 questionnaires will be distributed and at least 1500 valid questionnaires will be recovered. Data collection will be combined with online platform and offline distribution to ensure the comprehensiveness and accuracy of data. In-depth interviews will be conducted based on the questionnaire survey results, and typical samples will be selected. It is estimated that 50–60 people will be interviewed. The case study relies on contacting the target universities, obtaining official documents, reports and other materials, and combining with field visits to gain more in-depth insights.

In this study, the perfection and frequency of knowledge sharing mechanism are taken as independent variables, and measured by means of multiple items in the questionnaire. The willingness, ability and educational effect of innovation and entrepreneurship are taken as dependent variables, which are measured by scale and specific indicators respectively. Futhermore, students' gender, grade and professional background are considered as control variables to exclude their potential influence on the research results.

4.4. Data analysis

In the aspect of data analysis, SPSS, AMOS and other statistical software are used to systematically process and analyze the data. First, the data is cleaned to ensure the validity of the data. Then it makes descriptive statistics and summarizes the basic situation of the sample. Then the reliability and validity are analyzed to verify the reliability of the measuring tool. After that, correlation analysis was carried out to explore the relationship between variables. Finally, using the methods of multiple linear regression and structural equation model, this article deeply analyzes the specific influence of knowledge sharing mechanism on the willingness, ability and educational effect of innovation and entrepreneurship. Futhermore, the quantitative research results are verified and supplemented by case studies, and the common characteristics of successful cases are refined.

5. Empirical research results and biomechanical analysis

Through empirical research, it reveals the far-reaching influence of tertiary education knowledge sharing mechanism on university students' IEE. Firstly, the

relationship between the frequency of knowledge sharing mechanism and university students' entrepreneurial intention is explored (as shown in **Table 1**).

Table 1. Frequency of knowledge sharing mechanism use and entrepreneurial intention.

Frequency of Use	Sample Size	Mean Entrepreneurial Intention	Standard Deviation
Rarely	200	2.9	0.7
Occasionally	400	3.6	0.6
Frequently	600	4.2	0.5
Very Frequently	400	4.9	0.4

With the increasing frequency of knowledge sharing mechanism, university students' willingness to innovate and start a business also shows a significant upward trend. Students who frequently use knowledge sharing mechanism have an average willingness to innovate and start a business of 4.9, which is much higher than that of students who seldom use it (2.9). This shows the positive role of knowledge sharing mechanism in stimulating students' interest in entrepreneurship.

Next, the influence of knowledge sharing mechanism on university students' entrepreneurial ability is analyzed more fully. With the help of multiple linear regression analysis, the results shown in **Table 2** are obtained.

Table 2. Multiple linear regression analysis of knowledge sharing mechanism on entrepreneurial competence.

Variable	Regression Coefficient	Standard Error	*t*-Value	*p*-Value	VIF
Knowledge Sharing	0.52	0.04	12.3	0.000	1.1
Gender	0.10	0.03	3.1	0.002	1.0
Grade Level	0.15	0.03	4.8	0.000	1.2
Major Background	0.08	0.05	1.6	0.108	1.3
Constant Term	1.20	0.10	11.9	0.000	-

The regression coefficient of knowledge sharing frequency to entrepreneurial ability is 0.52, which is statistically significant ($p < 0.001$). This shows that the frequency of knowledge sharing mechanism has a significant positive impact on entrepreneurial ability. Gender and grade also have some influence on entrepreneurial ability, but the influence of professional background is not significant.

In order to fully understand the role of knowledge sharing mechanism, it also explores its impact on the effectiveness of IEE. With the help of structural equation model analysis, the results shown in **Table 3** are obtained.

Table 3. Structural equation modeling of knowledge sharing mechanism on entrepreneurial education effectiveness.

Path	Standardized Path Coefficient	Standard Error	*p*-Value
Knowledge Sharing → Intention → Effect	0.60	0.05	0.000
Knowledge Sharing → Competence → Effect	0.55	0.04	0.000

The knowledge sharing mechanism not only directly affects the educational effect by enhancing the entrepreneurial ability, but also indirectly affects the educational effect by enhancing the willingness to innovate and start a business. The standardized path coefficients of the two paths are significant ($p < 0.001$), which shows that the knowledge sharing mechanism plays a vital role in IEE.

In order to have a deeper understanding of the specific implementation effect of the knowledge sharing mechanism, the research also compares the use effects of different knowledge sharing platforms, as shown in **Table 4**.

Table 4. Comparison of different knowledge sharing platforms.

Platform Type	Sample Size	Mean Satisfaction	Mean Frequency of Use	Mean Effectiveness Rating
Online Course Platform	800	4.5	4.2	4.3
Academic Forum	400	3.9	3.5	3.8
University-Enterprise Collaboration	200	4.7	4.0	4.5
Entrepreneurial Competition	200	4.4	3.8	4.2

Online course platform and school-enterprise cooperation project all perform well in satisfaction, frequency of use and effectiveness score. This shows that these platforms are more effective in knowledge sharing and IEE. In contrast, the performance of academic forums is slightly inferior, but it still has certain value.

Finally, the influence of gender, grade and professional background on the effectiveness of knowledge sharing mechanism is analyzed, as shown in **Tables 5–7**.

Table 5. Gender impact on knowledge sharing mechanism effectiveness.

Gender	Mean Entrepreneurial Intention	Mean Entrepreneurial Competence	Mean Education Effectiveness
Male	4.2	4.0	4.1
Female	4.0	3.8	4.0

Table 6. Grade level impact on knowledge sharing mechanism effectiveness.

Grade Level	Mean Entrepreneurial Intention	Mean Entrepreneurial Competence	Mean Education Effectiveness
Freshman	3.5	3.2	3.4
Sophomore	4.0	3.7	3.9
Junior	4.4	4.1	4.2
Senior	4.7	4.5	4.6

Table 7. Major background impact on knowledge sharing mechanism effectiveness.

Major Background	Mean Entrepreneurial Intention	Mean Entrepreneurial Competence	Mean Education Effectiveness
Science/Engineering	4.6	4.4	4.5
Humanities	3.8	3.6	3.7
Business	4.3	4.1	4.2

Although there is a slight difference between men and women in the willingness to innovate and start a business, ability and educational effectiveness, the difference

is not significant. This shows that the knowledge sharing mechanism has little influence on gender and has universal applicability.

With the increase of grade, students' willingness to innovate and start a business, ability and educational effect all show a gradual upward trend. This may be related to the fact that senior students have been exposed to the knowledge sharing mechanism for a longer time and have more experience.

Science and engineering students perform well in innovation and entrepreneurship willingness, ability and educational effectiveness. Business students also show a high level, which shows that the knowledge sharing mechanism has certain effects in different professional backgrounds. Interdisciplinary cooperation plays an important role in cultivating students' comprehensive ability, promoting knowledge integration and innovative thinking. In order to better promote this cooperation, we can organize interdisciplinary team projects, hold interdisciplinary lectures and seminars, and establish interdisciplinary research centers to promote in-depth exchanges and cooperation among students.

In addition to the uneven quality of knowledge sharing and uneven distribution of resources, this paper also discusses the root causes and influencing factors of these problems, such as education system, cultural concepts and policy support. Through in-depth analysis of the root causes of these problems, more targeted solutions can be put forward to promote the sustainable development of knowledge sharing and innovation and entrepreneurship education. These results reveal the remarkable promotion of knowledge sharing mechanism to university students' IEE. These findings provide valuable reference for tertiary education institutions to optimize the knowledge sharing mechanism, and also point out the direction for improving the quality of IEE. Online course platform is welcomed by students because of its convenience, rich resources and interactivity, which helps to stimulate students' interest and participation in learning; School-enterprise cooperation projects help students to turn theoretical knowledge into practical results and improve their innovation and entrepreneurship ability through practical opportunities and market docking. These factors have contributed to the outstanding performance of these platforms in knowledge sharing and innovation and entrepreneurship education. For universities, it is suggested to increase interdisciplinary course and projects and establish a school-enterprise cooperation mechanism; For enterprises, it is suggested to provide internship and practical opportunities to support students' innovative and entrepreneurial projects; For the government, it is suggested to formulate relevant policies to encourage the development of knowledge sharing and innovation and entrepreneurship education.

6. Conclusions

Through systematic literature review, questionnaire survey, data analysis, combined with biomechanical knowledge and discussion, this study discusses the promotion of adding biomechanical knowledge to the cultivation of students' entrepreneurial ability and the optimization of knowledge sharing environment.

Integrating biomechanical knowledge into knowledge sharing mechanism has played a unique and significant role in stimulating students' entrepreneurial will. It

accurately improves students' entrepreneurial ability in biomechanics, and also enhances the effectiveness of education to a certain extent. Students who often participate in knowledge sharing activities integrated with biomechanical thinking show higher willingness to innovate and start businesses and stronger practical ability. As a bridge between theory and practice, knowledge and innovation, knowledge sharing mechanism provides a platform for students to learn new knowledge and simulate practice.

Further analysis shows that the knowledge sharing mechanism from the perspective of biomechanics directly improves students' entrepreneurial ability, and indirectly affects the educational effect by enhancing students' learning motivation and willingness to innovate. The online course platform and school-enterprise cooperation project, which combine biomechanical elements, are particularly outstanding in knowledge sharing and entrepreneurship training.

Gender has little effect on knowledge sharing. This shows that the knowledge sharing mechanism constructed from the perspective of biomechanics has universal applicability. The promotion of grade is positively related to the willingness, ability and effect of innovation and entrepreneurship, which reflects the importance of continuous learning and practice accumulation. Although there are differences in the cultivation of entrepreneurial ability among students with different professional backgrounds, the knowledge sharing mechanism with biomechanics has achieved remarkable results in all majors.

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