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# CONTENTS

# Mediating Effect of Core Self-Evaluation Between Frustration and Meaning in Life Among Undergraduate Nursing Students

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**Abstract:** Objective: To explore the mediating role of core self-evaluation in the relationship between frustration and meaning in life among undergraduate nursing students. Methods: From August to September 2023, a survey was conducted on 356 nursing undergraduate students using the Frustration Scale, Core Self Evaluation Scale, and Meaning in Life Scale. Results:The scores of frustration, core self-evaluation, and meaning in life for undergraduate nursing students were (38.81±9.64) points, (33.44±5.59) points, and (41.21±9.29) points, respectively; There is a significant negative correlation between frustration and core self-evaluation ($r$=-0.53, $P<0.001$), a significant negative correlation between frustration and meaning in life ($r$=-0.31, $P<0.001$), and a significant positive correlation between core self-evaluation and meaning in life ($r$=0.43, $P<0.001$); the total effect of frustration on the meaning in life among undergraduate nursing students is -0.31, the direct effect is -0.12, and the indirect effect is -0.19. Conclusion: the frustration, core self-evaluation, and meaning in life of nursing undergraduate students are at a moderate level. Core self-evaluation partially mediates the relationship between frustration and meaning in life of nursing undergraduate students.

**Keywords:** Core Self-Evaluation, Meaning in Life, Frustration

## 1. INTRODUCTION

Against the backdrop of comprehensively promoting a healthy China, it is imperative to deepen the reform of the medical system. As the largest group in the medical industry, nurses are the foundation for providing high-quality medical services and the main force in the country's medical reform and development. By the end of 2022, the total number of registered nurses in China exceeded 5.2 million, with approximately 3.7 registered nurses per thousand population. the national healthcare ratio was 1:1.18, and the educational qualifications and professional service capabilities of the nursing team continued to improve. These data show that China's nursing industry has made good progress, but still faces problems such as insufficient overall allocation of nursing human resources, and a significant gap between the number of registered nurses per thousand population and the standard requirements in terms of medical care ratio. As an important supplement to the nursing profession, nursing college students provide follow-up talent support for the development of the nursing profession and can effectively alleviate the shortage of nursing staff. Therefore, nursing college students have clear life goals, and healthy growth is of great significance for the development of the nursing industry and meeting the growing demand of the people for medical services.

The experience of setbacks is necessary for nursing college students in their learning and life. Understanding the current situation of frustration among nursing college students and the impact of frustration on nursing college students is of great significance for promoting the healthy development of nursing college students and comprehensively improving their comprehensive quality. According to the setback regression theory [1], individuals with higher levels of frustration experience behavioral regression. When an individual encounters setback and is unable to achieve their own goals, it will lower their

core self-evaluation level [2]. Nursing college students who encounter setbacks in their learning and life may experience a decrease in personal self-identity, which can lead to more negative self-awareness and ultimately lower core self-evaluation. There are studies that have shown that the level of core self-evaluation can positively predict an individual's meaning in life [3]. When an individual's level of core self-evaluation is at a lower level, it will decrease their meaning in life [4]. Based on the above, this study aims to explore the mediating role of core self-evaluation in the relationship between frustration and the meaning in life of nursing undergraduate students, in order to provide suggestions and strategies for improving the meaning in life of nursing undergraduate students

## 2. RESEARCH OBJECT AND METHODS

### 2.1 Research Object

From August to September 2023, using a convenient sampling method, undergraduate nursing students from a medical college were selected to participate in the study. Inclusion criteria: informed consent and voluntary participation; Undergraduate nursing students on campus. Exclusion criteria: Those who have taken leave of absence or are not in school. This study complies with the Helsinki Declaration.

### 2.2 Research Tools

The Frustration Scale, developed by Gilbert and revised by Chinese scholar Tang Hua [5], includes two dimensions: low achievement and sense of defeat, with a total of 16 questions. Using the Likert 5-point scoring system, the score ranges from 0 for "never" to 4 for "always", with a total score range of 0-64 points. the higher the score, the higher the level of frustration among undergraduate nursing students. the Cronbach's α = 0.916 for this scale

The Core Self Evaluation Scale, developed by Judge and revised by Chinese scholar Du Jianzheng [6], consists of 10 questions. Using the Likert 5-point scoring system, the score ranges from "completely disagree"=1 to "completely agree"=5, with a total score range of 10-50 points. the higher the score, the higher the core self-evaluation level of nursing

undergraduate students. the Cronbach's α = 0.832 for this scale.

The Meaning in Life Scale, developed by Steger and revised by Chinese scholar Liu Sisi [7], consists of 9 questions and is divided into two dimensions: seeking meaning and possessing meaning. Using the Likert 7-point scoring system, the score ranges from "never"=1 to "always"=7, with a total score range of 9-63 points. the higher the score, the higher the level of meaning in life for undergraduate nursing students. the Cronbach's α = 0.923 for this scale.

### 2.3 Statistical methods

Use SPSS 22.0 software for data processing. Using percentages, mean ± standard deviation for descriptive statistics; Using Pearson correlation to explore the relationship between frustration, core self-evaluation, and meaning in life; Regression analysis was used to test the mediating role of core self-evaluation between frustration and meaning in life, and the bias corrected Bootstrap method was used to test the model fit. the inspection level is α= 0.05.

## 3. RESULTS

### 3.1 General information of research subjects

This study collected 381 questionnaires, and after removing invalid questionnaires, a total of 356 valid questionnaires were obtained, with an effective response rate of 93.44%. Among them, 246 were females (95.25%) and 110 were males (4.75%); 96 freshmen (26.97%), 98 sophomores (27.53%), 82 juniors (23.03%), and 80 seniors (22.47%); 152 people in urban areas (42.70%) and 204 people in rural areas (57.30%); 60 only children (16.85%) and 296 non only children (83.15%); 32 single parents (8.99%) and 324 non single parents (91.01%). the average age is (20.35 ± 1.48) years old.

### 2.2 Score of frustration, core self-evaluation, and meaning in life for undergraduate nursing students

The score of frustration for undergraduate nursing students is (38.81±9.64) points, the score of core self-evaluation is (33.44±5.59) points, and the score of meaning in life is (41.21±9.29) points. the specific scores are shown in Table 1.

Table 1: Score for frustration, core self-evaluation, and meaning in life(N=356)

| variable | Total score | Average score of entries |
|---|---|---|
| Frustration | 38.81±9.64 | 2.43±0.60 |
| Core self-evaluation | 33.44±5.59 | 3.34±0.56 |
| Meaning in life | 41.21±9.29 | 4.58±1.03 |

## 3.3 Analysis of frustration, core self-evaluation, and meaning in life significance among undergraduate nursing students

Undergraduate nursing students showed a significant negative correlation between frustration and core self-evaluation ($r$=-0.53, $P<0.001$), a significant negative correlation between frustration and sense of meaning in life ($r$=-0.31, $P<0.001$), and a significant positive correlation between core self-evaluation and sense of meaning in life ($r$=0.43, $P<0.001$).

## 3.4 Analysis of the mediating effect of core self-evaluation on the relationship between frustration and meaning in life among undergraduate nursing students

Perform regression analysis with core self-evaluation as the mediator variable, frustration as the independent variable, and meaning in life as the dependent variable. It was found that frustration among undergraduate nursing students can negatively predict core self-evaluation ($\beta$=-0.53, $P<0.001$) and the sense of meaning in life ($\beta$=-0.12, $P<0.001$), core self-evaluation can positively predict the sense of meaning in life ($\beta$=0.37, $P<0.001$), as shown in Figure 1. the Bootstrap method (sampling 5000 times, 95% confidence interval) was used to test the mediating effect. the frustration of nursing undergraduate students had an indirect effect on their sense of meaning in life through core self-evaluation, with an indirect effect value of -0.19, accounting for 61.29% of the total effect. the values of each effect are shown in Table 2.
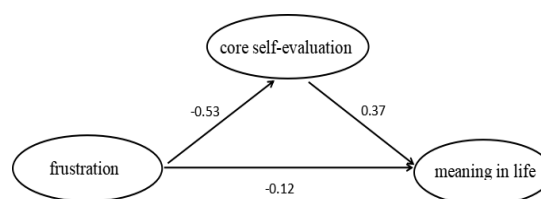


Figure1: Final model with standard path estimates

Table 2: the mediating effect of core self-evaluation on the relationship between frustration and meaning in life($N$=356)

| | Indirect effect size | SE | Bootstrap LLCI | Bootstrap ULCI | Effect proportion (%) |
|---|---|---|---|---|---|
| Direct effect | -0.12 | 0.06 | -0.22 | -0.01 | 38.71% |
| Indirect effect | -0.19 | 0.04 | -0.27 | -0.12 | 61.29% |
| Total indirect effects | -0.31 | 0.05 | -0.41 | -0.21 | |

## 4. DISCUSSION

### 4.1 The direct impact of frustration among undergraduate nursing students on their meaning in life

In this study, the direct effect of the mediation model was significant ($\beta$=- 0.12, $P<0.001$) indicates that frustration among nursing undergraduate students can directly affect their meaning in life. This result is consistent with previous studies. If nursing undergraduate students experience more negative life events, they will have more frustration, which will also reduce their meaning in life [8]. the more setbacks an individual experiences, the greater the impact it will have on them, and subsequently, the lower their meaning in life [9]. the sense of frustration caused by setbacks has a great impact on the meaning in life of nursing undergraduate students. Nursing undergraduate students in the university stage are full of vitality and energy, but they also bear pressure and confusion from various aspects in real life, especially in terms of learning pressure, interpersonal relationships, future employment [10]. Life events have the greatest impact on them. More such events will increase negative emotions and cognitive changes in individuals, leading to a lack of value and more pressure towards their own lives, ultimately resulting in a decrease in their meaning in life [11].

### 4.2 The mediating effect of core self-evaluation on the relationship between frustration and meaning in life among undergraduate nursing students

In this study, it was also found that core self-evaluation has a significant mediating effect on the relationship between frustration and meaning in life among nursing undergraduate students ($\beta$=- 0.19, $P$<0.001), indicating that the frustration of undergraduate nursing students indirectly affects their meaning in life through core self-evaluation. Frustration are a negative emotional state that arises when an individual's own needs cannot be met, and long-term experiences of setbacks have adverse effects on individual development [12]. Frustration is a feeling that nursing undergraduate students must experience. When nursing undergraduate students are in a state of setbacks, their self-awareness is limited, their self-confidence is insufficient, and their self-evaluation level also decreases. And core self-evaluation is a relatively comprehensive recognition of an individual's abilities, which has a positive significance for their own development [13]. Undergraduate nursing students in a high core self-evaluation state have a more positive attitude towards life, have clear life goals, are able to actively seek motivation to maintain goals, and actively develop plans to achieve them. As a result, their meaning in life significance increases [14]. When the level of core self-evaluation decreases due to frustration, nursing undergraduate students will lack goals, lack confidence in their daily work, study, and life, reduce the enjoyment of life, and thus reduce their meaning in life.

## 5. CONCLUSION
In summary, the meaning in life of nursing undergraduate students in this study is at a moderate level, and there is still room for improvement. the study shows that frustration can positively predict the meaning in life of nursing undergraduate students, while core self-evaluation plays a mediating role between the frustration and meaning in life. However, this study also has some limitations. the survey was conducted through self-assessment by participants, which may have a certain social approval effect and result in biased results; This study adopts a cross-sectional research design, and the causal relationship between variables is not strongly demonstrated. In future research, we can continue to track this batch of participants and explore the causal relationship between frustration and meaning in life among nursing undergraduate students.

## REFERENCES
[1] Huang Weijun, Guo Dehua. the impact of academic frustration on classroom silence tendency among vocational college students: the mediating role of attribution style [J]. Journal of Guangxi University of Education, 2022(05):148-152.
[2] Zeng Lingjuan, Luo Shenqiu, Tang Siqi. the impact of discrimination perception on aggressive behavior among middle school students: a chain mediation of psychological resilience and core self-evaluation [J]. Chinese Journal of Health Psychology, 2024, 32(03):440-445.
[3] Cao Ruilin, Mei Songli, Liang Leilei, et al. the relationship between gratitude and college students' internet addiction: the mediating role of core self-evaluation and sense of meaning in life [J]. Psychological Development and Education, 2023, 39(02):286-294
[4] Wu Mingzheng, Chen Di, Yan Mengyao, et al. the relationship between family rituals and adolescent self-control: the chain mediating effect of parent-child attachment and sense of meaning in life [J]. Psychological and Behavioral Research, 2023, 21(06):832-838.
[5] Tang Hua, Wang Suping, Gong Ruijie et al. Reliability and validity evaluation of the frustration scale on anxiety and depression in medical students [J]. Journal of Shanghai Jiao Tong University (Medical Edition), 2019, 39(01):84-88.
[6] Du Jianzheng, Zhang Xiang, Zhao Yan. Structural verification of core self-evaluation and revision of its scale [J]. Psychological Research, 2012, 5(03):54-60.
[7] Liu Sisi, Gan Yiqun. Reliability and validity of the Chinese version of the Sense of Life Scale among college students [J]. Chinese Journal of Mental Health, 2010, 24(06):478-482.
[8] Bu Na, Fu Junhua, Zhang Wenwen, et al. the mediating role of empathy in the relationship between ideological and political literacy and sense of life meaning among nursing interns [J]. Chinese Journal of Nursing Education, 2024, 21(01):32-36.

[9] Yang Yinping, Xian Guicai. the Relationship between Mobile Phone Dependence and Sense of Life among College Students: the Mediating Role of Social Connection [J]. Journal of Tianjin Vocational and Technical Normal University, 2023, 33(03):73-78.

[10] Li Yi, Chen Yongyong. the impact of stress perception on the sense of meaning in life among master's students: understanding the mediating role of social support [J]. Psychological Monthly, 2023, 18(15):85-87.

[11] Zhang Jinghui, Xu Gangmin, Han Xianguo, et al. the impact mechanism of daily stress perception on the meaning of life: an empirical sampling study [J]. Chinese Journal of Clinical Psychology, 2023, 31(01):184-188.

[12] Deng Xuyang, Liu Xiaogang, Liu Zhizhi, et al. the relationship between parental psychological control and academic engagement and negative emotions in college students: a chain mediated effect of frustration and coping efficacy [J]. Chinese Journal of Clinical Psychology, 2023, 31(01):142-147+126.

[13] Zeng Lingjuan, Luo Shenqiu, Tang Siqi. the impact of discrimination perception on aggressive behavior among middle school students: a chain mediation of psychological resilience and core self-evaluation [J]. Chinese Journal of Health Psychology, 2024, 32(03):440-445.

[14] Yu Xiaolin, Wang Shuxian. the impact of self-identity on the sense of meaning in life of high school students: the chain mediating effect of positive psychological capital and career adaptability [J]. Psychological Technology and Applications, 2023, 11(05):291-300.

# A Study on the Applications of the Zone of Proximal Development Theory in the English Education of Middle School Students— Taking Students in H School in X City as an Example

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**Abstract:** This study takes the students of H School in X City and the related English teachers as the research objects, and through questionnaires and teaching practice, it investigates and understands the current abilities of English teaching for middle school students from the levels of students' learning habits, teachers' teaching habits, teachers' understanding of the Zone of Proximal Development(referred as ZPD) and the degree of humanistic care for the students, etc., to find out the gaps between middle school students' comprehensive English ability and the curriculum standard, as well as the challenges they have in learning, and then to overcome the discussed problems through the utilization of the concept of ZPD and teacher teaching approaches.
**Key Words:** Zone Of Proximal Development; Middle School English Teaching; Middle School Students; English Learning

## 1 INTRODUCTION

In March 2022, the Ministry of Education of the People's Republic of China issued the English Curriculum Standards for Compulsory Education (referred to as the "Standards"), and in the section of the description of the quality of academic achievement, it is clearly stated that students at Level 3, who are in grade 7-9 in middle schools, are expected to learn independently and take the initiative to cooperate with others to complete learning tasks. As a matter of fact, middle school students have studied English for several years and they have mastered some basic skills in learning English. At their ages, they have experiences of learning, they are active, curious and interested in new things. But they lack the self-consciousness and motivation to learn, as well as the sense of taking the initiative to acquire learning resources.

This paper intends to study how to maximize the teacher's usefulness as well as value through the analysis of middle school students' English scores and questionnaires for both students and teachers, this paper aims to enable the students in School H to improve their English language proficiency both in class through teachers' guidance and assistance and out of class through teamwork. This study will better shape both the teachers' and the students' role in the English learning of middle school students, and it can also provide some methods or suggestions for the students to learn English well. Through this study, teachers can better practice the requirements mentioned in the Standards, and students can reach the standards in the Standards faster and better.

## 2 LITERATURE REVIEW

This chapter is about literature review that is not only introduces the definition of theoretical bases, both Constructivism and ZPD, but also shows the studies about the application of ZPD theory in middle school education abroad and at home. To complete this chapter, the author consults information through literature searches on major online

websites as well as offline books to provide a theoretical and practical basis for this study.

Vygotsky has been recognized as a pioneer of social constructivism, and his concept of ZPD is heavily based on the idea of social construction. the concept condenses the essence of social constructivism, interprets the meaning of "construct", reveals the dialectical relationship of interdependence between the individual and society, emphasises the social nature of individual cognitive development, puts forward the idea that teaching is based on and guides development, and fosters the formation of the social constructivist view of knowledge, development, and teaching, which gave rise to the concept of social constructivism in the construction of knowledge, development, and instruction, as well as a dialectical orientation.

In his book *Thought and Language*, Vygotsky (1986) creatively proposed the new idea defined as the "Zone of Proximal Development" based on the developmental perspective of dialectical materialism: the distance between learners' actual development level as determined by independent problem solving and learners' level of potential development as determined through problem solving under the guidance or in collaboration with more capable peers, which can be considered as there are two levels of learners, one that the learner has already reached and the other is a potential level that may be reached with the help of an adult or others.

### 2.1 Studies Abroad

In 2000, a survey conducted by Nassaji and Swain(2000) in an English composition tutorial class, whether negotiated help provided within an English learner's ZPD is more effective than help provided randomly and regardless of an English learner's ZPD, revealed that there were instances where the non-ZPD student also benefited from the tutor's help: there was a tendency for more direct and explicit prompts to be more useful than less direct implicit prompts.

Moreover, Abbas A., and Azizi Z. (2012) shown that, by the study researchers seek to discover a new trace in the old-used and typical methods of teaching grammatical items in high school educational settings, students was able to learn better and deeper if they were taught language components, such as adverbs, depending on their ZPD.

In 2022, researchers from the Department of Educational and Counseling Psychology at McGill University in Montreal, Canada, conducted an experiment by using college students as the group to which ZPD theory was applied and found that on the basis of the concept, teachers could effectively cultivate students' independent innovation and learning ability in college English teaching, and at the same time achieve the purpose of improving students' comprehensive ability, also provided three teaching methods based on ZPD:heuristic teaching methods, interactive teaching methods and scaffolding learning method(Ni, 2022, p. 50).

### 2.2 Studies at Home

Before 2009, it was considered scientific to "implement education according to the actual situation of the students", that is, the application of the theory of ZPD in English teaching was focused on the design of teaching grammar, speaking, writing, vocabulary, and so on, and there was almost no research on the application of the theory of ZPD to the teaching of Western culture in middle school English teaching materials. Thereby, Zhou Wenjie pointed out that in English reading teaching, the teacher's application of ZPD will profoundly affect the students' reading interest, reading level and the formation of reading skills.

Based on the theory of ZPD, Gai Shuhua proposed a method of word block education in college English and put this method into practice with 71 college students not majoring in English. It was found that this method significantly improved students' comprehensive language proficiency and word block acquisition.

Later, with the emergence of the flipped classroom, teachers combine ZPD and apply it to the flipped classroom, which provides opportunities for university English teachers to teach.

According to Chen Xintong, the core of the theory of ZPD lies in the transformation of the zone of proximal development into the zone of existing development, which establishes a close connection between learning and junior high school English teaching, providing a scientific theoretical basis for junior high

school English teaching, and constructing a teaching model of junior high school English in this regard.

# 3 RESEARCH METHODOLOGIES

This research aims to study the application of the ZPD theory in the English education of middle school students, the difficulties encountered and also put forward the corresponding countermeasures. Therefore, this research mainly studies the following issues:

3.1 What are the gaps between comprehensive English language skills and educational curriculum of middle school students?

3.2 What difficulties will middle school students encounter in learning English?

3.3 How can teachers incorporate the concept of ZPD to help students solve problems and improve their general skills?

## 3.4 Subjects of the Research

The experimental samples in this study were all from H middle school in X city, Fujian province. the researcher selected a total of 100 students in two classes, as well as 30 English teachers of junior section, as participants of questionnaire. the research results were obtained through questionnaire surveys tests and teaching experiment from the current abilities of English teaching for middle school students from the levels of students' learning habits, teachers' teaching habits, teachers' understanding of ZPD and the degree of humanistic care for the students, respectively.

## 3.5 Instruments of the Research

This research adopts a combination of qualitative research: literature research method and questionnaire survey, the comprehensive ability test as well as education experimentation to study on the application of the ZPD Theory in the English education of middle school students.

## 3.6 Procedures of the Research

In this study, the author first distributed an online questionnaire to students in two selected classes. the students completed and submitted the questionnaires carefully under the supervision of their teachers. Meanwhile, thirty teachers complete the questionnaire as well. Then, the author collected the questionnaire data and entered them into the computer for detailed analysis, creating tables and pie charts. After that, the author began her

five-day teaching experiment to know about the current comprehensive abilities of students and tried to apply the concept of ZPD to improve those of them, which were measured by the test's result. Finally, according to the results of data analysis and teaching experience, the author put forward feasible applications according to the actual situation.

# 4 RESULTS AND DISCUSSION OF RESEARCH

Chapter 4 is the results and discussion, in which the author discusses the questionnaire and the teaching experiment separately. Firstly, the author objectively presents the findings of the questionnaire and the classroom experiment. Based on this, the data results from the questionnaire and the findings and gains from the experiment were further analysed. Finally, the findings are discussed: the data are analysed as a whole and some reasonable explanations are given.

## 4.1 Result and discussion of Questionnaire

The author sorted out and analyzed the collected questionnaires. the author divided the questions of the questionnaire into concerns about teaching and learning and specific practices.

The first is the current learning situation of the students. Although close to 70% of the students can achieve a pass in the exam, 11.43% of them still fail to reach 60 points. Admittedly, only about a quarter of the students have their learning strategies. It shows that most of the students like the English classroom, and they all want to gain something from the English classroom and improve their comprehensive English ability.

It can be learnt that there are no teachers who are not aware of the ZPD theory; they also pay attention to the students' differences, 88% of the teachers assign homework according to their students' differences with high frequency, while only 65.4% of them teach according to the students' differences more often than the others; close to 90% of them pay attention to the students' gains from the classroom and choose the time to give feedback.

The researches show that teachers pay close attention to the teaching in their classes, can recognize variations among students, and employ a range of teaching strategies. However, they keep teaching more on the

basis of fundamental principles such as curriculum standards, syllabus, and textbooks, and ignore the concept of student-centered education, with only 34.62% of teachers enabling students to have discussions and 7.69% making it possible that students can learn independently, which may be a helpless move given the pressures of contemporary high school and college entrance exams.

Throughout the results of the questionnaire, the gap between the current English level of middle school students and the requirements of the curriculum standard stems from the fact that a small number of students have their own learning strategies; in the current educational context, their ability to learn independently and cooperatively is still lacking. the great majority of pupils pass the exam, however few achieve high marks (higher than 135). Students in the 90-135 score range might have the following reasons:

1. students are weak in independent and co-operative learning;
2. students may have weaknesses in listening, reading and writing;
3. classroom activities are more homogeneous and their attention is easily distracted;
4. teachers pay less attention to this kind of middle students.

For those students who cannot pass or even achieve 60 scores, they may be less interested in English themselves or pay less attention to it.

## 4.2 Result and Discussion of Test and Experimentation

Through teaching practice, the author found that in the first two days, there was not much difference in the performance of the two classes. Later, in the class that was taught applying the concept of the ZPD, the students gradually joined in the classroom activities, and the top students continued to think about the problems, absorbing and reflecting on what they had learned; they helped the relatively backward students to make progress together.

The students who benefit the most from this type of instruction are undoubtedly those with learning disabilities. Not only does it help students achieve their pre-class goals, but it is also effective in improving the classroom. Students who lacked self-control were empowered to initiate interactions with other members of the group and were able to perform specific learning tasks.

## 5 THE APPLICATIONS OF THE ZONE OF PROXIMAL DEVELOPMENT TO TEACHING AND LEARNING

Based on the research and data analyses in the previous chapters, in this chapter, the authors lists four practical applications of ZPD in teaching and learning, for teachers and students.

### 5.1 Scaffolding for Students

Based on Constructivism theory and Vygotsky's concept of ZPD, Bruner et al. (1976), famous American educational psychologists, for the first time introduced "scaffolding" as a teaching aid into teaching, and put forward the professional term "scaffolding teaching, " pointing out that the scaffolding teaching method aims to instruct students to accomplish work beyond their original ability with the help of their existing strength. Since English Curriculum Standard for General High Schools proposed, English teachers have changed from being the professors to being the guides on the path of students' constructed knowledge. Therefore, teachers should recognize this role change, pave the way for students' independent learning and build scaffolds reasonably.

The application of this theory in reality could be regarded as group cooperation and discussion, that was, the teacher only provided the questions to be discussed and the necessary knowledge background, then gradually reduced teaching interventions to the students. When grouping, teachers can arrange students with different development levels to conduct cooperative learning according to different needs. Because of the help and guidance of peers, students are more receptive to knowledge(Ni, 2022, p. 52).

### 5.2 Teaching Students in Accordance with Their Aptitude

The stage of history education in China, many educators and thinkers, including Confucius and Mencius, first proposed and refined the idea of teaching based on the character, qualifications, ability level, age, and other factors of the learner. They also developed the notion of adopting different teaching styles based on the various situations in which the individuals themselves find themselves.

Currently, as recently as September 2023, General Secretary Xi emphasized that educators and exceptional teachers should have the wisdom of teaching people according to their capacities in a letter to the representatives of the country's great teachers. Interaction in the teaching process is a very important presence, which not only allows teachers to understand whether the students master the knowledge timely, but also enables students to participate in the class. Therefore, teachers should also ask appropriate questions to students during teaching. For example, in listening and speaking class, students with weaker hearing and better speech can be invited to retell; in reading and writing class, students whose personal writing ability is not as good as reading ability can be invited to imitate writing.

## 5.3 Teaching Evaluation for Students' Development

A stage of teaching and learning is summarized by teaching evaluation, which gives teachers timely and effective insight into students' mastery of knowledge and skills. Students, on the other hand, can assess how well their teachers explain the material and the process, giving them the impression that they are in control of the classroom. When teachers evaluate students, they should take the approach of abandoning the disadvantages and promoting the advantages, such as pointing out students' disadvantages and indicating ways for students to improve, while also praising students' advantages and encouraging students to maintain them, so that students are aware of their own strengths and weaknesses and can purposefully improve and enhance them, thereby laying the foundation for future success.

## 5.4 Increasing Awareness of Independent Learning

Independent learning mainly emphasizes that students are active in understanding knowledge and exploring knowledge, focusing on the role of the student as the main body of play, while fostering the skill of independent learning, students can be assisted in recognizing their own learning capacity and studying consciously for their inadequacies. In terms of learning, teachers should provide students greater autonomy and required guidance so that they may better comprehend their individual features, maximize their cognitive advantages, and compensate for their inadequacies in foreign language acquisition.

## 6. CONCLUSION

This chapter makes a conclusion of the thesis, which carries out as follow. On one hand, the author presents the major findings of this study. On the other hand, the author elucidates the limitations inherent in this study. By amalgamating these two facets, the authors proffer the perspectives regarding future research about this topic.

Based on the above limitations, future research should be optimized. It is necessary to keep up with the content of the curriculum standards, make adequate preparations for the research in advance, and select as many samples as possible, including teachers and students from different grades, different schools and even different cities, so as to make the collected data more universal and reduce the occurrence of chance. In the questionnaire design, we should refer to more existing questionnaires, take the essence and discard the dross, so that the scope of the questionnaire is wider. For data analysis, allocate more time and learn related skills to make the data more authentic.

Furthermore, within the system of quality education, it is possible to journey deeper into the topic of language examinations, including the contents, format modifications, strategy selection, and the significance of the design. Students may improve their test scores by using the right learning strategy and process, as the results of tests are a direct reflection of their learning. More academics will be delving deeply into the creation of professional curricula and the improvement of English subject competency in relation to the English language learning component. There will be further improvements to the professionalism and scholarship of English studies.

## REFERENCES

[1] Abbas A., & Azizi Z. (2012). Development in the Students' Learning of English Adverbs. *Journal of Language Teaching and Research*, 3(1), 1798-4769.

[2] Nassaji, H., & Swain, M. (2000). A Vygotskian Perspective on Corrective

Feedback in L2: the Effect of Random Versus Negotiated Help on the Learning of English Articles. *Language Awareness*, 9(1), 34-51.

[3] Ni L. (2022). Application of the Zone of Proximal Development in College English Teaching. *Adult and Higher Education*, 4(7), 49-54.

[4] Vygotsky. L. (1986). *Thought and language*. MIT Press.

[5] Wood, D., Bruner, J. S., & Ross, G. (1976). the role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17(2), 89-100.

# Research on the Class Management Mode in Colleges and Universities under the Background of "Internet plus"

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**Abstract:** Class is the basic unit and organizational structure for universities to carry out educational and management activities, as well as the main organizational carrier for college students to engage in self-education, self-management, and self-service. Under the background of "Internet plus" information technology development era, colleges and universities should have a new management system that keeps pace with the times, make full use of Internet resources, use Internet media to serve students, deeply integrate "Internet plus" with daily class management, promote the improvement of class management, and radiate the vitality and vitality of the class.

**Key words:** Internet plus; Higher education institutions; Class management

## 1. INTRODUCTION

Class management is an important component of school work and also an important force in promoting the development of school education. What is needed in today's society is composite talents who can keep up with the times and have innovative spirit. Therefore, in the context of the "Internet plus" information technology development era, colleges and universities should have a new class management system that keeps pace with the times. Using Internet thinking, information platforms and technical means, according to the interests of learners and physical and mental development characteristics, colleges and universities should carry out planned, purposeful and organized education and management activities for class affairs and students [1]. the "Internet plus" will be deeply integrated with the daily class management, and a new class management model with the characteristics of the Internet era will be built to achieve the educational effect of twice the result with half the effort.

## 2. "INTERNET PLUS" MODEL AND ITS CHARACTERISTICS

"Internet plus" means "Internet plus traditional industry", which combines the advantages of the Internet with traditional industries to promote the development of traditional industries or create new development opportunities. "Internet plus" is the latest form of information network technology development, and the development of cloud computing, big data, the Internet of Things, and mobile Internet has laid the foundation for the penetration and integration of the Internet into other fields. "Internet plus" has become an important development trend, even a general-purpose technology. It has become the key to determine the level of industrial com-petitiveness, and is an area that countries around the world are committed to promoting. "Internet plus" has the following characteristics: (1). Make traditional industries more intelligent; (2). Deeply integrate with traditional industries to create more new business models and products. In the "Internet plus" era, the traditional class management model has been unable to meet the needs of students, and needs to innovate the class management model. By building a management platform, information management and intelligent management can be achieved to improve management efficiency. By combining big data and artificial intelligence technology, analyzing student behavior and learning data, timely understanding their needs and problems, and providing targeted assistance and guidance.

## 3. THE CURRENT SITUATION AND PROBLEMS OF CLASS MANAGEMENT IN UNIVERSITIES

The current situation and problems of class management in colleges and universities With the development of Internet technology, the class management model using emerging technologies can greatly improve the efficiency and management quality of the education process. However, at present, most colleges and universities still stay in the traditional model of class management, lack of advanced information management tools and management means, and lack of effective tracking and management of students' learning and living conditions, resulting in the inability to effectively protect students' personality development. Most students are in a passive state of being managed in class management, showing a lack of initiative.

## 4. THE APPLICATION OF "INTERNET PLUS" MODE IN CLASS MANAGEMENT

Under the background of "Internet plus" information technology development era, college class management has entered a new era. To highlight the characteristics of class management work in the information age, new media technology should be reasonably applied. Based on the use of online office software, such as WeChat, Tencent online document filling, group relay, etc., a unified data management platform should be constructed to break the constraints of traditional class management work, continuously improve the level and effectiveness of university class management, and better serve students.

### 4.1 "Internet plus" provides a big data environment for class management.

With the continuous development of information technology, it is possible to track and collect relevant data related to the daily learning and life of college students, comprehensively and completely record various information of the class, and form electronic records of students. Through the data management system, students can dynamically and timely grasp their learning and ideological development status, establish an early warning mechanism, prevent and guide potential ideological problems in advance, and provide timely warning for students whose grades are not ideal or fluctuate significantly in the short term. Timely adjust the management mode and approach based on the different characteristics of different students, and implement personalized education and management for students in a way that is easily accepted by students. At the same time, big data can be used to help college students truly understand their strengths and interests, guiding them to make career plans.

### 4.2 "Internet plus" builds an Internet communication platform for class management.

4.2.1 Build a student exchange platform. Class QQ groups can be used to guide students to communicate and learn, carry out class activities, and express their opinions on class affairs in the group. Through interactive communication, students can learn how to communicate and build a platform for class student communication, allowing students to self-manage and democratically manage.

4.2.2 Build a platform for teacher-student communication. Utilize social media platforms such as QQ, WeChat, and DingTalk to create a teacher-student communication platform, establish internal communication groups within the class, and accurately convey educational and management content through various means such as video screening or image display. For areas where students have doubts, communication and interaction should also be implemented to guide them to form correct life and values. In addition, students in the Internet world are also easy to disclose their own actual situation. They can learn more about students' comments in the circle of friends, QQ space and other platforms to get effective information, which is conducive to better student management.

4.2.3 Build a home school communication platform. Family education is an indispensable component of the education system. Parent groups are a platform for communication between families and schools, as well as a natural educational field formed by family school collaboration. Using QQ, WeChat, and other platforms to establish communication bridges with parents, forming a collaborative force between family and

school, and promoting the improvement of student literacy. Utilize online platforms to provide online home school interaction and educational resources, guide parents to accept correct educational concepts and methods, promote close cooperation between families and schools, and jointly promote the comprehensive development of students.

**4.3 "Internet plus" provides a digital environment for class management.**

4.3.1Provide new forms for class activities. Nowadays, information technology has entered schools and classrooms. We should fully utilize the advantages of information technology to design student activities that are highly participatory and creative.

4.3.2Provide new cases for daily management of the class. When encountering problems in the daily management of the class, you can search on Baidu and see various "problem cases" in front of you. By drawing on the experience of successful cases and combining them with the actual situation, develop corresponding solutions.

4.3.4Provide a new carrier for the construction of class culture. Class culture is a complex of beliefs, values, and attitudes shared by students in a class, as well as the speech and behavior tendencies of class members. In the era of "Internet plus", the construction of class culture can be described and recorded with the help of online multimedia, including words, pictures, short videos, etc., to achieve multi sensory and multi-channel influence on students, leaving students with an indelible memory.

## 5. CONCLUSION

The "Internet plus" model has brought vitality and vigor to college class management, which is conducive to innovating the form and content of class management, and is of great significance to the development of college students' education, teaching and management. Therefore, colleges and universities must keep pace with the times, actively grasp the characteristics of the "Internet plus" model, and create an open educational environment for the growth and development of students by establishing an information-based class database, building an Internet communication platform, and creating a characteristic class culture, so as to effectively improve the quality and level of class management and promote the development of college education.

## REFERENCES

[1] Linshan Cheng. Improving the Effectiveness of Moral Education by "Internet plus Class Management" [J]. Journal of Fujian University of Education, 2018(2):7-9.

[2] Mengzhe Wu. Establishing equal and harmonious teacher-student relationships through class information management [J]. China Information Technology, 2021(10):76-77.

[3] Shouping Zhang, Lianwu Yang. Management advantages and promotion strategies of Internet class groups [J]. Teaching and Management, 2021(28):25-28.

# Graphics, Symbols, And Language in Visual Communication Design

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**Abstract:** With the development of the economy and the continuous advancement of social informatization, people's demand for visual communication design is constantly increasing. In visual communication design, language, graphics, and symbols are the focus of design, directly affecting people's visual experience. High quality language, graphics, and symbol design can effectively improve the overall effect of visual communication design. In the process of visual communication design, designers should use the coordinated application of language, graphics, and symbols to express the creative concepts that need to be conveyed and bring people a good visual experience. Therefore, this article will analyze the relationship between graphics, symbols, and language in visual communication design, and explore how to effectively apply graphics, symbols, and language in visual communication design.

**Keywords:** Visual communication design; Graphics; Symbols; Language

## 1. INTRODUCTION

In modern society, the main service object of visual communication design is advertising. Through high-quality visual communication design, advertising information is widely disseminated. For the dissemination of advertising information, one of the important conditions for its widespread dissemination is a good visual experience, and the focus of visual experience is the graphic symbols and language used. Graphics, symbols, and language are important carriers of visual communication design, and their image features and meanings are also expressed through the design of graphics, symbols, and language. Therefore, in the process of carrying out visual communication design, the relationship between the three should be scientifically handled to promote harmonious coordination among them, in order to bring viewers a stunning visual experience. Therefore, visual communication design should coordinate the relationship between the three in order to achieve the expected level of visual communication design.

## 2. THE RELATIONSHIP BETWEEN GRAPHICS, SYMBOLS, AND LANGUAGE IN VISUAL COMMUNICATION DESIGN

### 2.1 Relationship between symbols and graphics

Symbols are symbolic objects used to refer to specific things, facilitating better communication and understanding among people. Symbols simplify the processing of things and have symbolic significance. In visual communication design, the display of symbols can simplify complex things, making it easier for people to understand the meaning of expression, and is the dissemination of a specific visual experience. Symbols and graphics are closely connected. It can be said that symbols are simple graphics, and graphics are also complex symbols. Symbols can be displayed in a graphical form, and graphics can also be displayed in a symbolic form. In the development process of visual communication design, due to the continuous updating of design concepts, diversification of design methods, and close connection with graphics, the expression forms of the two are more diverse. Therefore, in flexible visual communication design, the boundary between the two gradually becomes blurred, and the combination and coordinated use of the two can also enhance the value of the work. At the same time, there are also obvious differences between graphics and symbols. Generally speaking, although graphics and symbols have abstract characteristics, they can be described

more specifically through the design of style, color, and position than symbols.

## 2.2 The relationship between graphics and language

Language is a tool for communication, a carrier of human emotions and thoughts, and graphics are a form of information expression that transmits information to people through special means. Graphics also have the function of information transmission, but in the process of realizing the value of information transmission function, graphics and language are different, and graphics do not need to rely on language. In the process of modern visual communication design development, the reasonable application of graphics and language is the focus of development. Currently, many visual communication design works express effective information through the coordinated application of language and graphics. Although both are tools for expressing information, there are certain differences in the ways and characteristics of their expression. Language is a straightforward way of expressing information, People can directly understand new information content through language, while graphics require a combination of thinking and vision, and the way they are expressed is very tactful. In the current visual communication design, the organic integration of graphics and language has been completed, and the two can achieve a good fusion effect. This fusion is widely used in the field of visual communication design, bringing people a good visual experience.

## 3. THE APPLICATION OF GRAPHICS, SYMBOLS, AND LANGUAGE IN VISUAL COMMUNICATION DESIGN

### 3.1 Concise and clear, with prominent themes

Visual communication design serves the promotion and dissemination of advertising, with a focus on the transmission of information, allowing people to understand things through vision. Therefore, in order to achieve the value of visual communication design in conveying information, it is necessary to create visual effects, promote and advertise information through visual effects. the key to creating a good visual effect lies in the effective application of symbols, language, and graphics, from the perspective of symbols, language, and graphics Starting from the design of language and graphics, integrating and coordinating various information and elements. In order to effectively apply graphics, symbols, and language, in the process of visual communication design, the principle of simplicity and clarity, highlighting the theme, and designing around the theme should be followed. Language, symbols, and graphics should be used reasonably, processed and processed to create a strong visual impact, so that when people see the product, they can clearly understand its expressed content at a glance, And generate a strong interest to achieve the effect of information dissemination. When designing visual communication, clear hierarchy should also be achieved, which requires good coordination among the three. If the combination of graphics, symbols, and language is not handled well, the entire work will appear disorderly.

### 3.2 Utilization of Traditional Graphics

When designing visual communication, effectively applying language, graphics, and symbols can try to integrate traditional elements, reflect China's characteristics, and create a stronger visual impact. Traditional culture in our country has a strong recognition, and in its long history, there are many artistic design elements, such as cloud patterns, totems, etc. the integration of these elements enriches the expression forms of symbols and graphics, making visual communication design have more directions. At the same time, when using traditional graphics, attention should also be paid to the handling of details, and the design of aesthetic levels, color styles, and ethnic characteristics should be done well. Traditional cultural elements should be processed using modern methods and transformed into modern design methods, thereby achieving more effective application of traditional elements and improving the actual design effect of visual communication design works.

### 3.3 Unique visual experience

With the development of society and the advancement of science and technology, the visual communication design industry is flourishing, and the theory and technology of visual communication design are gradually

maturing. Various design concepts and styles are constantly emerging in the current society. To make visual communication design works attract public attention and enhance their breadth of information transmission, highlighting the characteristics of product design is the key, Enable the designed product to showcase a unique visual experience. Therefore, in the new era, visual communication design should continuously expand and extend the use of graphics, symbols, and language, integrate new elements, develop new ways of application, highlight the personalization of product design, and always stay at the forefront of social aesthetics, in order to design excellent works.

## 4. CONCLUSION

In general, graphics, symbols, and language are the focus of design work in visual communication design. To create high-quality works through visual communication design, the use of symbols, language, and graphics should be concise, clear, and thematic, exploring the integration of traditional graphic elements, and emphasizing the uniqueness of product design. Only in this way can high-quality works be designed.

## REFERENCE

[1] Chen Kai Research on the Application of Graphic Symbols in Visual Communication Design [J]. Journal of Wuzhou University, 2019, 29(03):104-108.

[2] Jia Guopeng, Arena, Shao Jie On the Information Application of Graphic Symbols in Visual Communication Design [J]. Journal of Beijing Institute of Printing, 2018, 26(05):53-56.

[3] Zhang Jing, Wang Caifeng An Analysis of the Information Interaction of Graphic Symbols in Visual Communication Design [J]. Art Education Research, 2018, (05):80.

ACADEMIC PUBLISHING HOUSE

# Research Progress in Targeted Therapy Based on Tumor Microenvironment in Pancreatic Cancer

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**Abstract:** TME is an important driver and influencing factor of pancreatic cancer. Based on its particularity, the effect of conventional chemotherapy and immunotherapy is very limited, but targeted therapy has shown promising results. This review reviews the structure and special treatment difficulties of pancreatic cancer TME, and analyzes the latest targets and effective treatment methods based on pancreatic cancer TME.
**Keywords:** Pancreatic cancer, TME, Immune Escape, Targeted Therapy

## 1. INTRODUCTION

Chemotherapy is the main treatment method for pancreatic cancer, but drug resistance is common. Therefore, it is urgent to deepen the research on TME and targeted therapy. This review aims to comprehensively analyze the existing targets and promising new targets in the targeted therapy of pancreatic cancer TME. Based on the composition and structural characteristics of pancreatic cancer TME, two major obstacles in conventional treatment are discussed, and the research progress and future prospects of targeted therapy are finally presented in a classification.

## 2. COMPONENT

Pancreatic cancer TME is composed of non-cellular components and cellular components. The former contains matrix proteins, collagen proteins, and soluble factors [1], while the latter includes PSC, CAF, MDSC, and other types. In pancreatic cancer, activated PSC can secrete factors [2] and obtain a new phenotype of CAF. CAF enhances tumor invasion ability by expressing α-SMA and other factors [4], and can fibroze the matrix and block drugs [1]. T cells are the main lymphocytes in pancreatic cancer TME, with CD4+, CD8+, Treg, and other phenotypes. In addition, there are two types of tumor-associated macrophages, M1 and M2, which have anti-tumor and pro-tumor effects respectively.

The non-cellular component (ECM) is a complex protein network that surrounds and stabilizes cells [4]. The matrix proteins can cross-link and deposit [1], which builds a physical barrier for tumors and induces drug resistance. The integrity of collagen proteins plays a key role, and if exposed, it provides a gap for cancer cell invasion [4]. High levels of hyaluronic acid also have an impact on the prognosis of pancreatic cancer, and the resulting protein gel can promote tumor proliferation. In addition, soluble factors such as TGF-β can also promote connective tissue hyperplasia in TME.

## 3. DIFFICULTY

In summary, it is not difficult to see that the TME of pancreatic cancer tumors has great particularity. While the connective tissue is hyperplastic and dense, it inhibits the function of the body's immune system through various ways, thereby achieving immune escape. Through these two ways, it promotes the proliferation and metastasis of cancer cells and improves drug resistance. Therefore, it is necessary to strengthen the understanding of the existing research results on the characteristics and mechanisms of TME, so as to find the weak points in the occurrence and operation of the microenvironment and further develop new targets for the treatment of pancreatic cancer.

## 4. PROGRESS IN TARGETS
### 4.1 CAF and ECM

As CAF surface targets, targeting VDR and PDGFR [6, 7] can enhance the effect of

chemotherapy. Among them, VDR is a key factor in inhibiting CAF activation [6] and is being tried in clinical trials. Blocking PDGFR in the extra-matrix of the tumor microenvironment can play a therapeutic effect by weakening the recruitment of CAF [3]. CXCL12 in the TME can prevent T cell infiltration in TME and cause immune escape. AMD3100 has been developed to block CXCL12 and CXCR4, which can improve the effect of immunotherapy [17].

Clinical trials have found that PEGPH20 has considerable effect in the clinical treatment of pancreatic cancer [3]. It can target hyaluronic acid and enhance drug delivery capacity. The combination of PEGPH20 and gemcitabine is in the experiment.

*Immunomodulatory Cells*

Continuous low doses of cyclophosphamide (CTX) can selectively kill Treg [8, 9, 10], thereby improving the efficacy of immunotherapy. Sunitinib and gemcitabine can also reduce the number of Treg cells in TME and weaken immune escape.

Experiments have shown that after inhibiting CSF-1R, TAM is consumed in large quantities and the ratio of CD8+:CD4+ T cells is greatly increased, and its combined targeting of PD-1 and CTLA-4 can further alleviate immune escape. Targeting CCR2 has been shown to block TAM infiltration, which can delay tumor progression [5]. Meanwhile, another study has shown that targeting CD40 can induce the expression level of CD86 and MHC II molecules in TAM.

In addition to its conventional anti-cancer effects, gemcitabine can also target the elimination of MDSCs [15, 16]. Another study found that BL-8040 can reduce MDSCs and weaken immune escape [13].

Based on the plasticity of macrophage phenotype, BTK, PI3Kγ and Dectin-1 can be effective targets to promote macrophage differentiation towards M2 phenotype [11] and reduce immune suppression.

## 4.2 Cytokines

Galunisertib [18] can directly or combined with gemcitabine to target the multi-effect molecule TGF-β to cause tumor growth arrest. For cancer cells, targeted interference with KRAS mutations can inhibit tumor development by reducing the synthesis of mmps [5], and selective ablation of krasg12d can reduce bone marrow infiltration [12]. In addition, inhibition of FAK can inhibit the growth of pancreatic cancer cells and alleviate immune escape [5].

## 5. CONCLUSION

In this review, I discussed multiple types of targets that can effectively alleviate tumor drug resistance and immune escape. In summary, I believe that the research prospects for targeted therapy based on TME in pancreatic cancer are bright, and with collective efforts, pancreatic cancer will become a controllable disease in the near future.

## REFERENCES

[1] YiYi Z, Min X. Research advances in the mechanism of tumor microenvironment in pancreatic cancer and related targeted therapy [J]. J Clin Hepatol, 2022, 38(4):965-968.

[2] Yongxiang Z, Zhenxia W. the role of pancreatic stellate cells in the microenvironment of pancreatic ductal adenocarcinoma [J]. Journal of Hepatobiliary and Pancreatic Surgery, 2024, 36(1):55-58, 64.

[3] Xiao Y, Yu D. Tumor microenvironment as a therapeutic target in cancer. Pharmacol Ther. 2021 May; 221:107753.

[4] Soysal SD, Tzankov A, Muenst SE. Role of the Tumor Microenvironment in Breast Cancer. Pathobiology. 2015 Sep; 82(3-4):142-52.

[5] Ho WJ, Jaffee EM, Zheng L. the tumour microenvironment in pancreatic cancer - clinical challenges and opportunities. Nat Rev Clin Oncol. 2020 Sep; 17(9):527-540.

[6] Sherman MH, Yu RT, Engle DD et al. Vitamin D receptor-mediated stromal reprogramming suppresses pancreatitis and enhances pancreatic cancer therapy. Cell. 2014 Sep 25; 159(1):80-93.

[7] Pietras K, Pahler J, Bergers G et al. Functions of paracrine PDGF signaling in the proangiogenic tumor stroma revealed by pharmacological targeting. PLoS Med. 2008 Jan 29; 5(1):e19

[8] Ercolini AM, Ladle BH, Manning EA et al. Recruitment of latent pools of high-avidity CD8(+) T cells to the antitumor immune response. J Exp Med. 2005 May 16; 201(10):1591-602.

[9] Ghiringhelli F, Larmonier N, Schmitt E et al. CD4+CD25+ regulatory T cells suppress tumor immunity but are sensitive to cyclophosphamide which allows immunotherapy of established tumors to be curative. Eur J Immunol. 2004 Feb; 34(2):336-44.

[10] Lutsiak ME, Semnani RT, De Pascalis R et al. Inhibition of CD4(+)25+ T regulatory cell function implicated in enhanced immune response by low-dose cyclophosphamide. Blood. 2005 Apr 1; 105(7):2862-8.

[11] Daley D, Mani VR, Mohan N et al. Dectin 1 activation on macrophages by galectin 9 promotes pancreatic carcinoma and peritumoral immune tolerance. Nat Med. 2017 May; 23(5):556-567.

[12] Bayne LJ, Beatty GL, Jhala N et al. Tumor-derived granulocyte-macrophage colony-stimulating factor regulates myeloid inflammation and T cell immunity in pancreatic cancer. Cancer Cell. 2012 Jun 12; 21(6):822-35.

[13] Philip M, Fairchild L, Sun L et al. Chromatin states define tumour-specific T cell dysfunction and reprogramming. Nature. 2017 May 25; 545(7655):452-456.

[14] Guerra C, Collado M, Navas C et al. Pancreatitis-induced inflammation contributes to pancreatic cancer by inhibiting oncogene-induced senescence. Cancer Cell. 2011 Jun 14; 19(6):728-39.

[15] DuPage M, Cheung AF, Mazumdar C et al. Endogenous T cell responses to antigens expressed in lung adenocarcinomas delay malignant tumor progression. Cancer Cell. 2011 Jan 18; 19(1):72-85.

[16] Fossum B, Olsen AC, Thorsby E et al. CD8+ T cells from a patient with colon carcinoma, specific for a mutant p21-Ras-derived peptide (Gly13-->Asp), are cytotoxic towards a carcinoma cell line harbouring the same mutation. Cancer Immunol Immunother. 1995 Mar; 40(3):165-72.

[17] Feig C, Jones JO, Kraman M et al. Targeting CXCL12 from FAP-expressing carcinoma-associated fibroblasts synergizes with anti-PD-L1 immunotherapy in pancreatic cancer. Proc Natl Acad Sci U S A. 2013 Dec 10; 110(50):20212-7.

[18] Melisi D, Garcia-Carbonero R, Macarulla T et al. Galunisertib plus gemcitabine vs. gemcitabine for first-line treatment of patients with unresectable pancreatic cancer. Br J Cancer. 2018 Nov; 119(10):1208-1214.

# Research on the Application of Internet of Things Technology in University Asset Management System

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**Abstract:** With the continuous promotion of the deepening reform of the education system, China's higher education has entered a period of rapid development, with the scale of education continuously expanding. the management of fixed assets in universities has entered a new stage of development, and achieving effective management of fixed assets in universities has become an important reform point for the development of universities. At the same time, fixed assets in universities have the characteristics of wide coverage, high value of fixed assets, scattered storage locations, long management cycles, and wide impact, which increases the difficulty of managing fixed assets in universities. This paper proposes a design and implementation scheme for a university asset visualization management platform based on the development and application of Internet of Things technology. By analyzing the current situation of university asset management and combining it with the application of Internet of Things technology, a university asset management system based on Internet of Things technology is constructed, which can achieve real-time monitoring, data analysis, and visual display of information used in university asset management. This management platform not only improves the efficiency and accuracy of university asset management, but also provides data support for university development decision-making, which has important application research value.
**Keywords:** Internet of Things; University asset management; Visual management platform

## 1. THE NECESSITY OF REFORMING ASSET MANAGEMENT IN TRADITIONAL UNIVERSITIES

With the continuous investment of the country in higher education, the scale of university assets is rapidly expanding, which has brought a huge impact to the traditional asset management model of universities. Traditional asset management methods not only have difficulty adapting to the rapidly increasing asset scale of universities, but also lack the ability to monitor and analyze the use of university assets in real time. They cannot detect abnormal use or damage of assets in a timely manner, bringing potential risks to asset safety, It cannot effectively regulate the efficiency of asset utilization, resulting in low efficiency of state-owned asset utilization or unreasonable asset procurement. At the same time, traditional asset management often suffers from the phenomenon of asset management information silos, which are not shared and coordinated with finance, logistics, and user departments, resulting in resource waste and increased management costs. In summary, traditional university asset management faces many problems such as untimely information, low management efficiency, and significant security risks. It is urgent to promote reform through technology and adopt new management methods and technological means to improve management level and efficiency.

## 2. THE APPLICATION PROSPECTS OF IOT TECHNOLOGY IN ASSET MANAGEMENT

The Internet of Things technology can achieve real-time monitoring and remote control of assets, collect and transmit data on assets through devices such as sensors and RFID tags,

and achieve real-time monitoring of asset location, status, usage, and other information. This allows university asset managers to constantly understand the operational status of university assets. On the one hand, they can promptly detect equipment abnormalities and take corresponding measures to effectively reduce the risk of laboratory safety accidents in universities; On the other hand, real-time data feedback analysis of asset usage through the Internet of Things can provide more accurate decision-making basis for asset procurement.

The Internet of Things technology provides rich data analysis and processing methods for asset management in universities, which can quickly and efficiently analyze and mine a large amount of asset data, discover potential problems and optimization space in asset management. Through data analysis, university asset managers can gain a deeper understanding of the usage patterns and demand characteristics of university assets, optimize resource allocation, improve asset utilization and management efficiency, and save a lot of manpower and material resources. The Internet of Things technology provides a visual display method for asset management. Through data visualization technology, complex asset information is transformed into intuitive and easy to understand forms such as charts and reports, helping university asset managers to intuitively understand the usage status and increase/decrease trends of assets, and providing scientific basis for asset management decisions.

## 3. RESEARCH ON THE APPLICATION OF INTERNET OF THINGS TECHNOLOGY IN UNIVERSITY ASSET MANAGEMENT SYSTEM

### 3.1 Architecture Design of Asset Management Platform under IoT Technology

The platform architecture for designing a visual management platform for university assets in the context of the Internet of Things needs to consider the characteristics of university asset management, and improve the stability, adaptability, scalability, and other performance of the asset management platform in a targeted manner. the basic architecture should include at least four main components: the IoT device layer, data collection and transmission layer, data processing and analysis layer, and user interface layer.

The IoT device layer is the foundation of the entire university asset visualization management platform, which includes various sensors, controllers, RFID tags and other IoT devices for collecting and monitoring various information of assets. When designing the IoT device layer, factors such as the type, quantity, distribution, and connection with the platform need to be considered to ensure that it can meet the monitoring needs of different types of assets and ensure the accuracy and real-time nature of data. the data collection and transmission layer is responsible for processing and transmitting the data collected from the IoT device layer, ensuring that the data can be transmitted to the data processing and analysis layer for subsequent processing in a timely and secure manner. When designing data collection and transmission layers, it is necessary to choose appropriate communication protocols and transmission methods to ensure the stability and efficiency of data transmission, and take corresponding security measures to protect the security and integrity of data. the data processing and analysis layer is the core part of the entire platform, responsible for processing, analyzing, and mining the data obtained from the data collection and transmission layer, extracting valuable information, and providing users with rich data analysis and visualization functions. When designing the data processing and analysis layer, it is necessary to consider factors such as the algorithm and model selection of data processing, data storage and management methods, and the presentation form of analysis results to meet the analysis and query needs of users for different types of data. the user interface layer is the external interface of the entire platform, responsible for interacting with users and providing visual display and management functions of asset information to users. When designing the user interface layer, it is necessary to consider the needs and habits of users, design an intuitive and user-friendly interface, provide rich visual charts and reports, help users quickly understand the

status and trends of assets, and achieve various functions of asset management.

## 3.2 Functional Module Design

When designing the functional modules of the university asset visualization management platform in the Internet of Things environment, it is necessary to comprehensively consider all aspects and requirements of asset management to ensure that the platform can meet the actual needs of users. the main functional modules include asset information management, real-time monitoring and early warning, data analysis and reporting, user permission management, and system integration and interface.

The asset information management module is responsible for managing the basic information of all assets in universities, including the name, type, model, specification, location, status, and other information of the assets. Users can input, modify, query, and delete asset information through this module, ensuring the integrity and accuracy of asset information. the real-time monitoring and early warning module monitors assets in real time through IoT devices, detects abnormal situations of assets in a timely manner, and provides warnings and alarms through preset rules. For example, when the asset temperature exceeds the preset threshold, the position shifts, or abnormal vibrations occur, the system will automatically issue alarm and prompt relevant personnel to take action to prevent asset damage or loss. the data analysis and reporting module is responsible for analyzing and mining data collected from IoT devices, extracting valuable information, and generating various forms of reports and charts to help users gain a deeper understanding of asset usage and trends, providing data support for management decisions. the user rights management module is used to manage users and roles of the platform, including user registration, login, permission assignment, role setting and other functions, to ensure that different users can manage and operate assets according to their permissions, and audit and monitor user operations. the system integration and interface module is responsible for integrating with other information systems, achieving data sharing and interaction, such as data docking with university financial systems, personnel systems, equipment management systems, etc., achieving asset information exchange and sharing, improving management efficiency and collaboration capabilities.

## 4. CONCLUSION

This article is based on the Internet of Things technology and designs and implements a visual management platform for university assets. the platform can achieve real-time monitoring, data analysis, and visual display of university asset management, bringing new solutions for university asset management. Significant reform results have been achieved through the practical application of the platform. In the future, with the continuous development and improvement of Internet of Things technology, university asset management platforms will also be continuously optimized and upgraded, providing more comprehensive and efficient support for university asset management.

## REFERENCE

[1] Wang Yujun. Design and Research on an Information Management Platform for Student Apartments Based on Internet of Things Technology [J]. Heilongjiang Science, 2022(14):73-75.

[2] Huang Kai. Exploring the Construction Plan of a Visual Smart Park Management System [J]. Chinese Science and Technology Journal Database (Abstract Edition) Engineering Technology, 2022(2):4.

# Innovation Research on Vocational Education Models in Clinical Medicine For 21st-Century Skills

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**Abstract:** This paper aims to explore innovative research on vocational clinical medical education models that are oriented towards 21st-century skills. With the continuous development of the medical field and the constant updates in technology, traditional clinical medical education models are no longer able to meet the demands of modern medical education. Therefore, this research adopts methods such as literature review and case analysis to analyze existing vocational clinical medical education models and propose innovative educational models. the main conclusions of this research are as follows: First, vocational clinical medical education models oriented towards 21st-century skills should focus on cultivating students' practical and innovative abilities. the traditional teacher-centered teaching model should be transformed into a student-centered teaching model, encouraging students to actively participate in clinical practices. Secondly, the teaching component of clinical practice should be strengthened to provide students with more practical opportunities. At the same time, teachers should play the role of guides, guiding students in self-directed learning and practice. Finally, the innovation of vocational clinical medical education models needs to keep up with the trends in the medical field.

**Keywords:** Vocational Clinical Medical Education; Educational Models; Practical Ability; Innovative Ability; Skills

## 1. INTRODUCTION

### 1.1 Research Background

Vocational education in clinical medicine plays a crucial role in cultivating professionals in the field. With the rapid development of society and advancements in medical technology, clinical medical education faces new challenges and demands. Traditional educational models are no longer sufficient to meet the requirements of modern medical education. Therefore, innovation and reform are needed to cultivate high-quality medical professionals who can adapt to the needs of the times.

### 1.2 Research Objectives

This study aims to explore innovative approaches and practical experiences in vocational education models in clinical medicine that align with 21st-century skills. Through a review of relevant theories and literature, we seek to understand the current development and existing issues in vocational education in clinical medicine. Based on this understanding, we will propose targeted innovative educational models and methods to enhance students' practical and innovative abilities.

### 1.3 Research Significance

This research is of great significance in promoting reform and innovation in vocational education in clinical medicine. By proposing educational models that target 21st-century skills, we can better adapt to the development needs of the era and cultivate medical professionals with practical and innovative abilities. Additionally, this research can provide valuable references and insights for educational reforms in other related fields.

## 2. REVIEW OF RELEVANT THEORIES AND LITERATURE

### 2.1 Development and Current Status of Vocational Education in Clinical Medicine

As an important part of cultivating professionals in clinical medicine, vocational education in clinical medicine constantly faces

new challenges and demands. Zhang Jianqing et al. discussed the issue of medical ethics education for vocational students in an article published in the Chinese Journal of Medical Education [1]. They believe that medical ethics education for vocational students is of great significance. By formulating medical ethics education models suitable for vocational students, we can effectively improve their professional ethics.

On the other hand, Xu Dinghong's article in the Journal of Heilongjiang Science and Technology Information [2] explored teaching methods in clinical medicine in vocational colleges. He proposed some reform ideas and methods aimed at improving students' learning outcomes and practical abilities. These studies provide valuable references for the development and current status of vocational education in clinical medicine.

2.2 Educational Models Theory Targeting 21st-century Skills

Educational models targeting 21st-century skills have become an important direction for the reform of vocational education in clinical medicine. At the Academic Annual Conference of the Chinese Preventive Medicine Association, Sun Tongda et al. published papers on their thoughts on the integration of public health and clinical medicine education for vocational students. These research results, including articles [3] [4] [5], provide important ideas and suggestions for strengthening the integration education of public health and clinical medicine for vocational students. They believe that this integration education can cultivate students' comprehensive abilities and innovative thinking, enabling them to meet the development needs of the medical field.

2.3 Relevant Research Achievements and Experiences

In terms of innovative vocational education models in clinical medicine, some studies have provided practical experience and successful cases. Zhong Yawen and Zhang Qi's research [6] introduced the practice and exploration of the reform of higher medical vocational education models. Through the reform of teaching methods and content, they achieved innovation in educational models. This innovation not only improved students' learning outcomes but also cultivated their practical and innovative abilities.

In addition, Meng Xiaohong and Yao Yuxian's research [7] explored the path of innovation and entrepreneurship education for college students in vocational medical schools under the integration of medical and educational resources. By integrating medical and educational resources, they provided students with opportunities and platforms for innovation and entrepreneurship, cultivating their innovative awareness and entrepreneurial abilities. This innovative educational path is of great reference value in vocational education in clinical medicine.

Furthermore, Li Lingfeng's research [8] focused on reconstructing the practice teaching model for vocational dental technology majors based on employment orientation. By adjusting teaching content and methods and reconstructing the practice teaching model, they provided students with training that is more closely aligned with actual job requirements, further enhancing students' employability.

Xu Hang et al. 's research [9] focused on constructing an indicator system for adjusting the enrollment scale of undergraduate clinical medicine majors based on educational resources. They believe that establishing a reasonable indicator system for educational resources is of great guiding significance for adjusting enrollment scale and improving education quality.

In summary, through a comprehensive analysis of the current development of vocational education in clinical medicine, educational models targeting 21st-century skills, and relevant research achievements and experiences, valuable references and insights can be obtained for this study. In the following chapters, we will further discuss student-centered teaching models, teaching components for cultivating practical abilities, strategies, and methods for fostering innovative abilities. Additionally, we will discuss the transformation of the role of teachers and the construction of support systems, analyze case studies of innovative vocational education models targeting 21st-century skills, and conduct empirical research and evaluation to draw conclusions and provide future prospects.

## 3. INNOVATIVE VOCATIONAL EDUCATION MODELS IN CLINICAL MEDICINE TARGETING 21ST-CENTURY SKILLS

With the continuous development of society and rapid changes in the field of medicine, vocational education in clinical medicine needs to adapt to the demands and challenges of the 21st century, providing students with an education model that promotes comprehensive development. This chapter will explore the innovation of vocational education models in clinical medicine targeting 21st-century skills, including student-centered teaching models, teaching components for cultivating practical abilities, and strategies and methods for fostering innovative abilities.

### 3.1 Student-Centered Teaching Models

The student-centered teaching model is an approach that places students as the primary focus and centers around their learning needs and development. In vocational education in clinical medicine, employing a student-centered teaching model can stimulate students' interest in learning and cultivate their autonomous learning abilities and critical thinking skills. To achieve a student-centered teaching model, teachers need to adjust their roles from traditional knowledge transmitters to learning guides and facilitators of learning resources for students. Teachers should design flexible and diverse teaching activities based on students' characteristics and needs, actively engage in students' learning processes, and provide personalized guidance and support. Additionally, utilizing modern technologies such as online teaching platforms and virtual laboratories can enhance students' learning experiences and interactivity, facilitating knowledge mastery and understanding.

### 3.2 Teaching Components for Cultivating Practical Abilities

Practical ability is one of the essential skills that clinical medicine professionals must possess. In vocational education in clinical medicine targeting 21st-century skills, emphasis should be placed on cultivating students' practical abilities. By incorporating various practical components such as internships, clinical training, and simulated operations, students can be exposed to real clinical environments, accumulate practical experiences, and improve their operational skills and problem-solving abilities. Teaching components for cultivating practical abilities should closely align with clinical practice, focusing on developing students' observation, communication, teamwork, problem analysis, and decision-making skills. Furthermore, teachers should enhance their guidance and evaluation of students' practical activities, provide timely feedback on students' performance, and help them continuously improve and enhance their practical abilities.

### 3.3 Strategies and Methods for Fostering Innovative Abilities

Innovation ability is one of the core elements of vocational education in clinical medicine in the 21st century. Fostering students' innovative abilities is of great importance in this context. Strategies and methods for fostering innovative abilities can be approached from several aspects. Firstly, teachers should guide students to cultivate innovative thinking, encouraging them to put forward new perspectives and problem-solving approaches. Teachers can stimulate students' curiosity and desire for exploration, provide open-ended questions and case studies, and foster students' innovative thinking and problem-solving abilities. Secondly, teachers should create a positive innovation atmosphere, encouraging students to dare to try and fail, and providing appropriate support and guidance. Teachers can organize innovation competitions and projects, providing students with opportunities to showcase and practice their innovative abilities. Additionally, teachers can guide students in utilizing information technology and internet resources to conduct scientific research and innovation projects, cultivating students' information retrieval and scientific research abilities.

In conclusion, innovation in vocational education models in clinical medicine targeting 21st-century skills is an important measure to meet the demands of the era. Through student-centered teaching models, teaching components for cultivating practical abilities, and strategies and methods for fostering innovative abilities, high-quality medical professionals with comprehensive abilities can be cultivated. These innovative educational models and methods will provide

valuable references and insights for the reform and development of vocational education in clinical medicine.

## 4. TEACHER ROLE TRANSFORMATION AND SUPPORT SYSTEM CONSTRUCTION

The innovation of higher vocational clinical medical education model for 21st century skills need not only the active participation of students, but also the active transformation of teachers and the construction of support system.

### 4.1 Teacher role transformation and training

In order to adapt to the innovation of higher vocational clinical medical education model for 21st century skills, teachers need to change from traditional knowledge imparts to students' learning guides and collaborators. Teachers should pay attention to the development of students' personality and the cultivation of independent learning ability, and stimulate students' learning interest and initiative. In the teaching process, teachers should pay attention to the diversity of students' thinking mode and learning style, adopt flexible teaching methods and teaching resources, and provide personalized learning support and guidance.

In order to achieve the transformation of the role of teachers, teachers need to receive relevant training and professional development. Training can include the learning of teaching theories and methods, the application of teaching resources and techniques, and the development of skills in teaching evaluation and feedback. the training should pay attention to the professional quality of teachers and the renewal of educational concepts, and encourage teachers to continue to learn and innovate. At the same time, schools and education management departments can provide the necessary support and resources to organize exchanges and cooperation among teachers and promote the transformation of teachers' roles and professional development.

### 4.2 Construction and operation of the support system

In order to effectively support the innovation of higher vocational clinical medical education model for 21st century skills, it is very important to establish a sound support system. This includes the allocation of teaching resources, the construction of teaching teams and the monitoring of teaching quality.

First of all, schools and education management departments should pay attention to the allocation and management of teaching resources. Teaching resources include teaching materials, teaching equipment, laboratories and practice places. Schools should rationally allocate teaching resources according to teaching needs and development direction to ensure effective teaching. At the same time, schools should also strengthen the updating and maintenance of teaching resources, provide advanced teaching equipment and technical support, and provide a good teaching environment for teachers and students.

Secondly, the support system also includes the construction of teaching teams and the monitoring of teaching quality. Schools should strengthen the construction of teachers and improve their professional quality and teaching level. the teacher team can carry out regular teaching exchanges and seminars, share teaching experience and teaching resources, and promote mutual learning and cooperation among teachers. At the same time, schools should also establish a teaching quality monitoring mechanism, evaluate the teaching process and teaching effect, and find problems and improvement measures in time.

## 5. CONCLUSION AND PROSPECT

Through the research on the innovation of vocational clinical medical education model facing the 21st century skills, the student-centered teaching model, the teaching link of practical ability training, the strategy and method of innovation ability training, the transformation of teachers' role and the construction of supporting system are discussed.

Through the student-centered teaching mode, students' learning interest and initiative can be stimulated, and their independent learning ability and critical thinking ability can be cultivated. Through the teaching link of practical ability cultivation, a real clinical environment can be provided to cultivate students' operational skills and problem solving ability. Through the strategies and

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methods of cultivating innovative ability, students' innovative thinking and problem-solving ability can be cultivated.

The transformation of teachers' role and the construction of supporting system are the key to realize the innovation of higher vocational clinical medical education model for 21st century skills. Teachers should be transformed from traditional knowledge imparted to facilitators and coordinators of student learning, and receive relevant training and professional development. Schools and education management departments should establish a sound support system, including the allocation and management of teaching resources, the construction of teaching teams and the monitoring of teaching quality.

There are many ways to explore and improve the innovation of higher vocational clinical medical education model for 21st century skills. For example, the application of teaching methods and teaching resources can be further studied, the cultivation of practical ability and innovative ability can be strengthened, and the professional quality and teaching level of teachers can be improved. At the same time, it can also strengthen cooperation with social and medical institutions, provide more practical opportunities and experimental places, and cultivate students' practical ability and professional quality.

In short, the innovation of higher vocational clinical medical education model for 21st century skills is of great significance for training high-quality medical talents to meet the needs of the Times. the reform and development of higher vocational clinical medical education can be promoted through the student-centered teaching mode, the teaching link of practical ability training, the strategies and methods of innovation ability training, the transformation of teachers' roles and the construction of support system. However, further research and practice is still needed to continuously improve the effectiveness and quality of the education model.

**REFERENCE**

[1] Zhang Jianqing, ZHANG Jian-Qing. Discussion on medical ethics education model of medical higher vocational college students [J]. Journal of Chinese medicine education, 2006, 26(5):25-26. DOI: 10.3760/cma. J. i SSN. 1673-677 - x. 2006.05.010.

[2] Xu Dinghong. the teaching method reform of higher vocational college of clinical medicine [J]. Journal of heilongjiang science and technology information, 2009(27):1. the DOI: 10.3969/j. i SSN. 1673-1328.2009.27.184.

[3] Sun Tongda, Chen Jianer, Guo Chunyan, et al. Thoughts on Strengthening the integrated Education of Public Health and Clinical Medicine for Medical students in Higher vocational colleges [C]// Proceedings of the Second Annual Conference of the Chinese Preventive Medical Association and the Second Annual Conference of the Global Chinese Public Health Association. 2005.

[4] Sun Tongda, Chen Jianer, Guo Chunyan, et al. Thinking on strengthening the integrated education of public health and clinical medicine for medical students in higher vocational colleges [J]. Chinese Rural Health Administration, 2006, 26(5):25-27.

[5] Sun Tongda, Chen Jianer, Guo Chunyan, et al. To strengthen higher vocational medical students of public health and the thinking of the integrated education of clinical medicine [C]// the second Chinese preventive medical association annual meeting and global academic second annual meeting of Chinese public health association. 0 [2024-03-18]. DOI: ConferenceArticle/5 aa23cdfc095d722209dd11 6.

[6] ZHONG Yawen, Zhang Qi. Practice and exploration of higher medical vocational education model reform [J]. Chinese Journal of Medical Education, 2011.

[7] Meng Xiaohong and Yao Yuxian. Psychiatry fusion of higher vocational college students' innovative undertaking medical college education path to explore [J]. Journal of China (the ten-day), 2021, 000(009):191-192. the DOI: 10.12217/j. i SSN. 1009-5071.2021.09.089.

[8] Li Lingfeng. Reconstruction of practice teaching model of Stomatology technology specialty in higher vocational colleges based on employment orientation [J]. Health Vocational Education, 2024(2):4-6.

[9] Xu Hang, Hou Jianlin, Wang Weimin. Construction of educational resource index system for regulating enrollment scale of

undergraduate clinical medicine [J]. Journal of Chinese medicine education, 2024, 44(01):1-5. DOI: 10.3760/cma. J. c. n115259-20230206-00101.

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# A New Path for Internationalization of Vocational Education

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**Abstract:** Zibo Vocational College has created an international development model of "bringing in, going out and innovating" education, constantly deepening the connotation construction, striving to establish a new benchmark for the internationalization of vocational education, serving the "the Belt and Road" construction and the "going out" strategy of regional economy at a higher starting point, constantly expanding international cooperation projects, and establishing friendly cooperative relations with 85 colleges and institutions in 21 countries and regions.

**Keywords**: Introduction; Go out; Friendly cooperation

## 1. THE LOGICAL STARING POINT OF CHINA'S VOCATIONAL EDUCATION"GOING GLOBAL" UNDER THE BACKGROUND OF "THE BELT AND ROAD"

In 2021, the "Opinions on Promoting the High Quality Development of Modern Vocational Education" (hereinafter referred to as the "Opinions") proposed multiple measures such as "improving the level of Sino foreign cooperative education", "expanding the level of Sino foreign cooperative education", and "promoting vocational education to go global" to create a Chinese characteristic vocational education brand, giving vocational education an important development task of "going global". Going global and expanding vocational education in China is an important direction for current and future development. Therefore, this paper will start from the background of the "the Belt and Road", rethink the logical starting point of China's vocational education "going out", explore its path choice, analyze its existing difficulties, and finally propose targeted optimization strategies on this basis.

We have established talent training standards for vocational colleges to go global, including model establishment, standard development, and language and technology integration. In 2018, the Chinese Council of the "the Belt and Road" National Universities and Enterprises Exchange Association was established to develop teaching standards for electrical automation technology and electromechanical integration technology, which were recognized by 12 universities and enterprises in 15 countries and regions, and jointly studied Chinese curriculum standards with Kant Baltic Federal University of Russia. With the help of the international education cloud platform, combined with local professional characteristics and industry needs, we have launched a dual combination of punches, outputting two professional standards of electrical and electromechanical engineering. With standardized courses and structured enterprise cases as the main line, we have established a curriculum standard system of "universal courses+personalized courses", project-based teaching material standards, strengthened practical teaching systems, and created international professional standards that accurately connect with external needs Curriculum standards and textbook standards. We have accurately aligned with the development of industries and the demand for technical and skilled talents in Mali and Tanzania, and have produced professional teaching standards such as Electrical Automation Technology and Mechatronics Integration Technology. We have also produced 5 sets of course standards such as Electrical and Electronic Technology and

Automation Production Line Installation and Debugging, as well as 26 textbook standards for Electrical Technology. These standards have been exported to Pakistan, certified by the Pakistani side, and included in the Pakistani vocational education system, Becoming a mandatory provincial standard for the Pakistani side and promoting its use in vocational colleges. "Model Establishment, Standard Development, Language and Technology Integration - Exploration and Practice of Talent Training Standards for" Going Global "in Vocational Colleges", "Building International First Class Teaching Resources Based on Electrical Automation Technology Professional Group in All Time and Space, Without Borders", and "Intelligent Manufacturing Production Line for Mobile Wireless Chargers" have been selected as provincial-level vocational education standards, resources, and equipment cultivation projects with international influence in Shandong Province [1].

## 2. HIGH QUALITY SERVICE FOR THE CONSTRUCTION OF THE "THE BELT AND ROAD" AND DOING A GOOD JOB IN GOING GLONAL

In 2018, the school initiated the establishment of the Chinese Council of the "the Belt and Road" National Association of Colleges and Enterprises Exchange, established friendly cooperative relations with 83 colleges and universities in the "the Belt and Road" countries and vocational education developed countries relying on equipment, built an international cooperation platform facing five continents, and helped the vocational education and economic development of countries along the "the Belt and Road". We have established the China Africa Vocational Education Alliance with the Sun Oil Institute of Uganda, the National Transportation Institute of Tanzania, and the Democratic Republic of Congo to provide an international cooperation open cloud platform for teaching, learning, management, training, and evaluation. We will output industry job standards and professional teaching standards for electrical engineers, and carry out undergraduate education and technical skills training in electrical automation technology.

Promote the upgrading and transformation of Uganda's industries, cultivate 300 skilled talents, and increase employment opportunities by 4% year-on-year, achieving the transfer and transformation of technical skills in related fields such as power plants. Collaborate with leading enterprises to establish an equipment research and development team, connect with the development of advanced manufacturing industry, understand talent training needs, research technical skills required for production, and develop a mobile wireless charger intelligent manufacturing production line based on intelligent manufacturing project requirements, supported by new technologies such as digital twin virtual simulation, and aimed at cultivating high-level skilled talents. Equipped with 8 workstations, covering the entire production process of intelligent processing, intelligent assembly, intelligent detection, intelligent logistics transportation, intelligent warehousing, etc., it has multiple functions such as fault alarm, real-time data collection, real-time monitoring, order management, and warehouse management. It can not only serve vocational education and teaching, but also achieve real product production. Build 18 enterprise skill training bases, arrange international students to go to frontline positions in enterprises for on-the-job internships, and ensure the cultivation of professional skills and recognition of professional identity for international students. Students have won 39 awards in the first Shanghai Cooperation Organization National Vocational Skills Competition, Silk Road Craftsmen International Skills Competition, and other national and provincial skills competitions. Most of the international students return to China after graduation and work in Chinese funded enterprises [2].

## 3. TO CONTRIBUTE TO THE CONSTRUCTION OF A COMMUNITY WITH A SHARED FUTURE FOR MANKIND, THE CONCEPT OF COMBINING LOCAL CHEMICAL ENGINEERING WITH VOCAtTIONAL EDUCATION

Build a two-way collaborative and shared vocational education development model,

jointly build a practical training base with Democratic Republic of Congo Mining Co., Ltd., and explore the concept of "school+practical training base+enterprise" engineering education integration. the vocational education model radiates to local colleges, helps their industrialization process, and disseminates Chinese culture and vocational education concepts. Strengthen the cultivation of digital and green skills. To meet the needs of the African industry, we have established a professional talent training model of "school enterprise collaboration, workplace integration, and alternating learning and training", aligned with industry job standards, developed virtual simulation software teaching standards for electrical engineering, and trained 50 skilled talents who meet the high-end, digital, intelligent, and green needs of the local intelligent manufacturing equipment industry in Africa. Integrate with the international community and create a localized model of "dual system". Zibo Vocational College implements national education policies, introduces advanced German "dual system" teaching mode, actively explores localization solutions, and jointly builds Sino German Intelligent Manufacturing College with Shandong Rhinecost Co., Ltd. the Electrical Automation Technology major has passed the professional evaluation and certification of the most authoritative third-party certification body in the world, the UK National Academic Degrees Evaluation and Certification Center, and has obtained international quality standard certificates and international comparability certificates. During the certification process, standardized development processes and teaching resources are formed, playing a demonstrative and leading role in the internationalization of professional construction nationwide. the development and construction model of building a "three in one" construction and application mechanism for the national teaching resource library, setting up four types of user portals, and forming a "professional platform+industry application" resource system [3]. the person in charge of the results exchanged and spoke 30 times in activities such as the National Intelligent Manufacturing Industry University Research Forum and the Qilu Principal Joint Meeting, promoting it to 640 universities nationwide. Integrating a new generation of information technology, we will build a "one core and multipolar" virtual simulation training cluster, build a practical training teaching curriculum system with multiple combinations, cross majors and progressive levels, innovate the "Internet plus+virtual simulation" teaching and learning methods, build a national first-class and international level vocational education demonstration virtual simulation training base, and build a typical case of the "three quality and spiral" virtual simulation resource construction model, which has been used for reference by more than 60 colleges and universities, including Jining Vocational and Technical College. the school enterprise has created an "eight co" cooperation model, introduced the German AHK vocational qualification certification standard, and cultivated a group of skilled talents with both "theoretical" and "professional" needs, forming a "dual system" localization vocational education resource transformation with "Zibo vocational characteristics", and creating a "dual system" educational model with Zibo vocational characteristics. 82 domestic and foreign delegations from Germany, France, and others came to exchange and learn, receiving a total of 30000 visitors and learners. It was elected to the Chinese Council of the Association of Colleges and Enterprises Exchange of the "the Belt and Road" countries, and the only training base for international Chinese teachers in the province [4].

## 4. CONCLUSION

The internationalization, educationalization, and professionalization of vocational education are not separate. Currently, vocational education is facing new tasks, directions, technologies, and the new requirements of holistic transformation in the new era. Internationalized vocational education must engage in dialogue between digitalization and the international community. Professionalization is inevitably the unity of the world, and digitalization must create a community with a shared future for mankind under standardized vocational education. On the new journey of great rejuvenation, only by

grasping the overall direction of digitalization, professionalization, and internationalization, and doing a good job in integrating and integrating the three aspects, can we shape new advantages and new momentum of Chinese vocational education, To contribute greater vocational education efforts to building a community with a shared future for mankind.

## REFERENCES

[1] Jin Yongwei, Yang Yan. 2020 Luban Workshop Construction and Development Report [M]. Tianjin: Tianjin People's Publishing House, 2020.

[2] Wang Qi, Liu Yaxi, Zhang Juxia, et al. Multi subject Collaborative "Going Global" in Higher Vocational Education: Practical Types and Optimized Governance [J]. Education Development Research, 2019(5):14-19.

[3] Li Huan, Lin Kesong Multiple governance logic of "going global" of higher vocational colleges under the "the Belt and Road" initiative [J]. Vocational and Technical Education, 2019(4):16-20.

[4] Zhu Dequan, Xiong Qing. How to reshape the new ecology of vocational education through digital transformation [J]. Modern Distance Education Research, 2022(4) 12-20.

# Research on Talent Training Program and Curriculum System Design for New Energy Vehicle Technology Majors in Higher Vocational Education

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**Abstract:** Since the construction of the "Double High Plan", vocational colleges across the country have made significant progress in training objectives, curriculum systems, teaching conditions, and teacher team construction. This article combines the professional ability requirements of the new energy vehicle industry for talents, and based on the development trend of new energy vehicle technology and the existing conditions and job capabilities of school enterprise cooperation enterprises, conducts research on talent training programs and curriculum system design. It is of great significance to jointly research and determine the professional talent training plan for schools and enterprises, jointly develop and construct the professional curriculum system, and implement the professional teaching process.

**Keywords:** Vocational education; New energy vehicle technology; Professional talents; Training plan; Curriculum System Design

## 1. DEVELOPMENT OF A TALENT TRAINING PROGRAM FOR NEW ENERGY VEHICLE TECHNOLOGY PROFESSIONALS

The purpose of "quality education" is to cultivate high-quality talents with comprehensive development. Vocational colleges should develop vocational education plans that are suitable for the characteristics of the local area, in order to achieve the goals of vocational education.

1.1 Professional positioning

Through investigation and research on the education status of new energy vehicles in domestic vocational colleges, it can be found that vocational colleges that can achieve certain results in China are those that have a very accurate positioning of their majors and know how to build them based on their own characteristics and regional development trends.

1.2 Talent training mode and characteristics

Vocational colleges need to adopt a "position led and ability progressive" approach to cultivate talents, which starts with the study of job tasks and professional ability needs of vocational positions. Guided by the professional ability needs of positions, professional talent training programs are planned, and a "combination of theory and practice" approach is used to enable students to achieve a skill level of beginner level in automotive repair (electrical maintenance), To the level of intermediate worker, and then to the level of senior worker. Through practice, the education of vocational colleges can be integrated with practical work, and the education of vocational colleges can be adapted to practical work.

## 2. PROFESSIONAL ABILITY COURSE MODULE

Vocational education should adhere to employment orientation, driven by industrial development needs, connect with the industrial chain, optimize professional talent training programs, deepen the integration of industry and education, fully utilize industry resources and enterprise advantages to carry out innovative talent training models and curriculum system construction, and strengthen teaching quality monitoring.

Strengthening the construction of the professional curriculum system jointly built by schools and enterprises. Curriculum is the basic unit of teaching activities and the core element of implementing teaching. the construction and reform of curriculum directly determine the quality of professional teaching. Based on various factors such as the school's teaching staff, professional characteristics, and industrial needs, the curriculum framework is determined, and the systematic course content of the work process is organically integrated into the school's training plan. the course content is designed according to the teaching ability of school teachers and the actual situation of enterprise technical personnel.

Professional competency courses are divided into three major parts: vocational foundation courses, vocational skills courses, and vocational expansion courses. the basic course of vocational education is a course aimed at teaching the relevant professional theories and technologies required by the new energy vehicle industry. Vocational colleges cultivate relevant professional talents according to the types of talents needed by society, in order to improve the talent quality of vocational colleges. Establish a connection between knowledge mastery and skill development, and arrange teaching content based on the cognitive laws of students in the three stages of cognition, introduction, and specialized synthesis. In the teaching process of this major, a "integration of theory and practice" educational approach can be adopted. In the process of educating and training students, the professional and technical level of students should be continuously improved from apprenticeship to general skilled workers, ultimately achieving the goal of cultivating vocational skilled talents. the purpose of career expansion courses is to expand students' professional abilities, improve their overall quality, expand their scope of professional knowledge, and enhance their competitive advantage in future work.

## 3. JOINTLY BUILDING A TEACHING STAFF AND DEEPENING SCHOOL ENTERPRISE COOPERATION

Since the implementation of the "Double High Plan", schools have made the construction of

teaching staff an important focus. Relying on the platform of school enterprise cooperation, actively exploring the implementation methods of high-level vocational schools and professional construction plans with Chinese characteristics through deep integration and joint education between schools and enterprises.

Taking the core courses of new energy vehicle technology as the main line, with the goal of enhancing students' professional abilities, strengthening the construction of the teaching team as the starting point, deepening school enterprise cooperation, and jointly educating students. Schools should actively carry out talent introduction work and organize high-level talent training programs. Collaborate with enterprises to build practical training bases and improve the professional quality of teachers. Continuously deepen teaching reform through school enterprise cooperation platforms. By jointly building practical training bases and renowned teacher studios, the goal of continuously improving the professional ability and teaching level of teachers can be achieved.

## 4. BASIC ABILITY COURSE MODULE

Emphasis should be placed on cultivating students' professionalism, professional ethics, and other essential qualities such as communication and coordination skills, information processing skills, and problem-solving abilities. the teaching content of this major includes: Introduction to New Energy Vehicles, Identification of Automotive Components, and Basic Knowledge of Automotive Electronic Technology.

## 5. PROMOTING TEACHING THROUGH COMPETITIONS AND IMPROVING TEACHING QUALITY

Vocational colleges should actively organize students to participate in various skill competitions, such as the Automobile Maintenance Skills Competition, the New Energy Vehicle Intelligent Connected Application Innovation Competition, etc. By participating in the competition, students can timely understand the latest technology in the industry, master the latest knowledge, and enhance their professional skills.

## 6. ENTERPRISE EXPERTS ENTER THE CLASSROOM TO ENHANCE PRACTICAL SKILLS

Both the school and the enterprise jointly form a professional teacher team and regularly go to the enterprise for on-the-job practice. Vocational college teachers can rely on the new energy vehicle training center and automotive technology training center established by the college to jointly develop talent training plans with enterprises, achieve optimization of talent training programs, and align the curriculum system with the requirements of enterprise job capabilities.

Regularly invite enterprise experts to the classroom to participate in professional course explanations, course standard development, textbook writing, and teaching activity design. Collaborate with enterprises to develop professional teacher competency standards, requiring each teacher to possess practical skills for frontline positions in the enterprise while performing their job well.

Before students start their internships, professional teachers conduct practical research in cooperative enterprises, determine the professional qualities, knowledge, and skill levels of students based on the internship positions and requirements, and develop professional talent training plans and curriculum systems. During the internship, students can enhance their professional competence and practical abilities through the "dual mentor" system, achieving the integration of teaching and operation between enterprises and schools. Taking automobile maintenance as an example, it can be divided into "original factory maintenance" and "non original factory maintenance". Let students understand the differences between new energy vehicles and traditional vehicle maintenance, and explain them from the aspects of vehicle structure, power system, braking system, etc. Through the process of on-the-job internships, students can enhance their professional qualities, cultivate their love for cars, and loyalty to their careers.

## 7. CONCLUSION

With China's increasing emphasis on the energy-saving industry, the new energy vehicle industry is bound to have a rapid development process in the future society. Developing a professional and technical personnel development plan that meets the needs of industry development, and establishing a scientific and reasonable training model for professional and technical personnel is the focus of current vocational and technical education reform. This article takes the training of talents in the field of new energy vehicle technology as an example to briefly explain the talent training mode, in order to contribute to the development of talent training plans and curriculum system design in the field of new energy vehicle technology in vocational colleges in China, and to promote the new energy vehicle industry.

## REFERENCES

[1] Yang Qing, He Keyu, Chen Xiaochang. Exploration of the "1223" Teaching Model for the Integration of Online and Offline Teaching in Vocational Colleges: Taking the New Energy Vehicle Technology Course as an Example [J]. Guangxi Education, 2020, (19):72-74.

[2] Liu Jianmei Research on the Training of High skilled Talents in Vocational Colleges under the 1+X Certificate System: Taking the Training of New Energy Vehicle Technology Talents as an Example [J]. Journal of Jiamusi Vocational College, 2020, 36(10):182-183+186.

[3] Yan Yalin, Long Yan Reform of Talent Training Model in High level Vocational Colleges under the Background of "Double High" - Taking the New Energy Vehicle Technology Major as an Example [J]. Automotive Practical Technology, 2021, 46(08):144-146+176.

# The Whole Life Cycle Performance Evaluation of Digitized Enabling Assets

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**Abstract:** Universities should promote academic and teaching governance, innovate an independent, constantly updated, and dynamic internal asset management quality life cycle diagnosis and improvement system based on the quality target chain and standard chain of talent cultivation, build an internal control and budget performance management system with full domain information technology intervention, timely issue warnings and feedback, and continuously improve asset utilization.
**Keywords**: Asset Management; Diagnosis and Reform System; Internal Control Integration; Performance Evaluation

## 1. IMPLEMENTATION BACKGROUND

On April 1, 2021, the "Regulations on the Management of State owned Assets in Administrative Units" (State Council Order No. 738) were promulgated and implemented, which can promote the reform of asset management mechanisms, effectively ensure the safety and integrity of administrative state-owned assets, improve asset efficiency, and put forward new requirements for asset life cycle management. It explores the implementation of comprehensive information technology asset life cycle performance evaluation, and effectively improves asset utilization efficiency, Promote asset quality management onto the path of sustainable development.

## 2. MAIN APPROACH

Establishing a quality diagnosis and improvement dual loop for performance evaluation, constructing a comprehensive quality management system covering fixed assets, real estate, large instruments and equipment, low value durability, and other aspects, has promoted the refinement of asset management.

### 2.1 Build a dual closed loop of asset digital management, self diagnosis and improvement.

Optimize quality standards comprehensively around project management, process management, self improvement, and spiral enhancement, and monitor the quality of asset procurement, allocation, use, and disposal in four dimensions.

2.1.1 Build an asset quality management target chain to achieve closed-loop quality management of procurement, configuration, operation, and disposal.

2.1.2 Build an asset quality management standard chain, based on the asset quality management process and operational procedures, combined with asset quality management objectives, to form a closed-loop quality management standard chain.

### 2.2 Built a comprehensive digital asset lifecycle performance evaluation system

We have made great efforts in digital construction and achieved comprehensive digital management of fixed assets. In recent years, by upgrading the fixed asset management system, introducing new real estate management systems, and collaborating with schools and enterprises to develop large-scale instrument and equipment sharing systems, we have utilized the Internet of Things to improve the efficiency of asset management

2.2.1 has established an IoT management model, forming a four level grid asset management model that combines committee supervision, centralized management, departmental management, and asset users. By utilizing asset management systems, real estate management systems, and enterprise WeChat apps, it ensures the high-quality operation level of asset management.

2.2.2 Achieved full digital coverage. Using the quality management platform as a carrier,

strengthen the process management and quality control of departments, positions, and projects, and enhance the transparency and motivation of management.

## 3. ACHIEVEMENT EFFECTIVENESS

Establishing a performance evaluation system for the entire lifecycle of digital assets, covering a wide range of areas, with strong practicality, significant results, and highlighting the characteristics of serving and giving back to society.

### 3.1 A well-established system with strong practicality.

The performance evaluation system for the entire life cycle of assets has been proven to be reasonable in indicator setting, combined with management and control, and highlights the cost-effectiveness of assets through practical operation.

3.1.1 A performance evaluation mechanism for asset management has been established from three aspects: state-owned property guarantee system, state-owned asset management system, and state-owned asset operation system, covering asset system construction, management institution setting, asset allocation, asset use, asset stock revitalization, and digital construction.

The trial operation of integrated budget and internal control, in accordance with asset allocation standards, scientifically prepares annual budgets, enhances the comprehensiveness, scientificity, and rigor of asset income management supervision, and effectively prevents hidden loss of state-owned assets.

3.1.2 The shared research and development of large-scale instruments and equipment has promoted the process of paid use of assets, established cost awareness, responsibility awareness, market awareness, and property rights awareness in asset management, and greatly improved the utilization rate of assets.

### 3.2 Significant results, highlighting sharing and sharing.

The performance evaluation system for the entire life cycle of digitized assets has a good effect on improving the subjective initiative and work efficiency of asset management personnel, and highlights asset revitalization, strengthening the public property

compartment to achieve the goal of sharing and sharing with society.

The operation of the asset management performance evaluation system, incorporated into the fixed asset management system, strengthens its motivation for scientific management of state-owned assets and unleashes the subjective initiative of asset management personnel.

3.2.1 Strengthen the integration of schools and regions, activate assets, and achieve resource sharing. With the deep integration of schools and cities, with a focus on improving the mechanism of diversified subject integration in education, the vocational education group is operated in a physical manner, and the six parties of "government, school, enterprise, park, and institute" are working together to promote a community with a shared future. the concept is changing, highlighting the performance benefits of state-owned assets, and achieving social sharing.

## 4. EXPERIENCE SUMMARY

Focusing on the top-level design of asset performance evaluation and continuously exploring and improving in practice has enhanced the effectiveness of asset quality management.

### 4.1 Emphasizing the top-level design of digital campuses is an important prerequisite for enhancing asset quality management.

The high standard positioning of digital campus has achieved the integration of campus digital resources to serve society, built a good all-round communication mechanism, achieved full coverage of informatization and intelligence, diversified information communication channels, ensured seamless integration of asset management business, and solidified the foundation of asset quality management.

### 4.2 Strengthening the construction of asset management teams is the fundamental way to improve asset quality management.

A four level management team has been established, which combines committee supervision, centralized management, departmental management, and asset users. It coordinates the overall planning and arrangement of state-owned assets, enhances

team collaboration capabilities, and provides human resources support for asset quality.

**4.3 Adhering to innovative thinking is the fundamental method to promote asset quality management.**

Exploring the management of asset intelligence era, focusing on the research and development of projects such as large-scale instrument and equipment sharing and sharing. Providing guarantees for the efficient operation of asset management has improved the reliability, transparency, and openness of asset quality management, comprehensively strengthened the effectiveness and reliability of asset quality management work, enhanced the supervision effect of asset quality

management, and promoted the sustainable development of asset quality management.

**REFERENCE**

[1] Ding Chaohao, Ma Hao. A new model for the full life cycle management of state-owned assets in universities [J]. Journal of Jilin University of Education. 2023(06).

[2] Gao Dongxing, Zhang Feng, Gao Zheng. Exploration and Practice of the Full Life Cycle Management Model of State owned Assets in Universities [J]. Logistics Management in Universities. 2023(01).

[3] Wang Jing. Exploration of a new model for overall management of state-owned assets in universities [J]. Vitality. 2023(10).

# Research on the Current Situation and Countermeasures of Innovation and Entrepreneurship Education for College Students under the Background of "Double Innovation and Entrepreneurship"

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**Abstract:** In the current era, with rapid social development, the demand for high-quality talents is greatly increasing. As the main battlefield for cultivating high-quality talents, universities shoulder the responsibility of outputting talents for society. Although the current society is developing rapidly, the employment problem of college students is still quite severe, and they may face a series of complex factors that may prevent them from finding suitable positions smoothly. the emergence and application of innovative and entrepreneurial strategies have provided a development path for college students after graduation to some extent, in order to solve their employment difficulties. However, in the current context of entrepreneurship and entrepreneurship, although the implementation of innovation and entrepreneurship education has provided important assistance in solving the employment difficulties of college students, the lack of practicality in innovation and entrepreneurship education in universities often leads to some difficulties in the development of innovation and entrepreneurship. Based on this, this article briefly analyzes the current situation and countermeasures of innovation and entrepreneurship education for college students in the context of entrepreneurship and entrepreneurship.

**Keywords:** College Students; Innovation And Entrepreneurship; Education Current Situation; Countermeasure

## 1. INTRODUCTION

The rapid development of the social economy requires continuous innovation to drive it, and innovation and entrepreneurship are important driving forces for promoting social development. However, how to truly transform innovation and entrepreneurship into a driving force for socio-economic development has become a major challenge. At present, innovation and entrepreneurship education in universities is facing difficulties. How to overcome these difficulties and seize opportunities is the key to the future development of innovation and entrepreneurship education in universities. Currently, there are problems in innovation and entrepreneurship education in universities, such as an incomplete curriculum system and a lack of high-quality teaching staff. Therefore, it is necessary for universities to focus on solving the main problems during the development of innovation and entrepreneurship education in the future, continuously improve the curriculum system, optimize teaching modes, and strengthen the construction of teaching staff to meet the increasingly noble needs of innovation and entrepreneurship education in the future.

## 2. THE DIFFICULTIES FACED BY INNOVATION AND ENTREPRENEURSHIP EDUCATION FOR COLLEGE STUDENTS

### 2.1 Insufficient implementation of innovation and entrepreneurship education policies

With the development of the times, innovation and entrepreneurship strategies for college students are being carried out in full swing. At the same time, with rapid social development, China's comprehensive strength has reached the world's advanced level, and it has cooperated with many countries in various fields such as economy and culture. the demand for high-quality talents is also continuously increasing. For innovation and entrepreneurship education in universities, the national government has also introduced many relevant policies, and there is local financial support, which can be said to have laid a solid policy foundation for innovation and entrepreneurship education in universities. However, from the actual situation, the relevant policies for innovation and entrepreneurship education have not been truly implemented, which is related to factors such as a lack of sound management mechanisms and lax supervision. Moreover, although innovation and entrepreneurship education has been implemented, there are still many students who are unaware of it, indicating that the relevant publicity work for innovation and entrepreneurship education has not been effectively implemented. In addition, research has shown that there are limitations to the relevant support policies for innovation and entrepreneurship.

**2.2 The construction of teaching staff needs to be strengthened**

In the current context of entrepreneurship and entrepreneurship, innovation and entrepreneurship education in universities is actively being carried out, and innovation and entrepreneurship education has become a key content of university education. From the current situation, there is a problem of insufficient construction of teaching staff in innovation and entrepreneurship education in universities. Compared to professional courses, innovation and entrepreneurship education has its particularity and requires a higher level of teaching staff. Teachers need to be able to carry out targeted education based on the students' majors and market demands. However, due to the lack of dedicated teachers responsible for innovation and entrepreneurship education in schools, it is highly likely that teaching needs cannot be met in the actual teaching process. Secondly,

many teachers of innovation and entrepreneurship education in high schools currently work part-time, often carried out by counselors, ideological and political teachers, etc. Therefore, the professionalism of innovation and entrepreneurship is insufficient, and even they do not attach importance to their own work in terms of ideological consciousness. As a result, they are unable to fully exert themselves in innovation and entrepreneurship education work. Finally, among the current innovation and entrepreneurship education teams in universities, young teachers are the majority. Although they have high professional competence and rich theoretical knowledge, due to their young age and lack of practical experience, there may also be a lack of real enterprise practice and management experience. In summary, the shortage of innovation and entrepreneurship education teams has posed significant constraints on the work of innovation and entrepreneurship education in universities.

**2.3 Unreasonable curriculum design for innovation and entrepreneurship education**

The innovation and entrepreneurship education curriculum has its particularity and novelty. In practical teaching, there must be a sound, scientific and reasonable curriculum design, which is an important prerequisite for ensuring the effective implementation of innovation and entrepreneurship education. However, in reality, many universities or teachers lack a correct understanding of innovation and entrepreneurship education in terms of ideological consciousness. Believing that innovation and entrepreneurship education courses are auxiliary courses. At the same time, in actual education, universities have failed to truly integrate innovation and entrepreneurship teaching with school development plans and talent training programs, which has led to the lack of targeted innovation and entrepreneurship education work. At the same time, although some universities attach great importance to the development of innovation and entrepreneurship education, they overly focus on policy lectures, industry overviews, and theoretical explanations in the course content, resulting in the overall curriculum being more theoretical and lacking practical content,

which cannot provide practical experience support for students' future innovation and entrepreneurship, and is not conducive to improving the innovation and entrepreneurship ability of enterprises. In addition, innovation and entrepreneurship education should be combined with students' majors, providing support for innovation and entrepreneurship education based on their professional advantages, in order to achieve the goal of personalized teaching. However, many schools fail to consider students' majors in innovation and entrepreneurship education, which is not conducive to their future innovation and entrepreneurship after graduation.

## 2.4 Inadequate guarantee mechanism for innovation and entrepreneurship education

Driven by the concept of innovation and entrepreneurship education and related policies, universities are continuously increasing their emphasis on innovation and entrepreneurship education. However, there are still issues with inadequate guarantee mechanisms in innovation and entrepreneurship education. the guarantee mechanism for innovation and entrepreneurship education is an important foundation for promoting the steady progress of innovation and entrepreneurship education, generally involving two aspects: funding and talent. From a financial perspective, foreign countries provide relatively high financial support for innovation and entrepreneurship, and students can obtain financial support through multiple channels during the innovation and entrepreneurship process. However, the development in this area in our country is relatively slow, and the economic support channels for students during entrepreneurship are relatively single, usually obtained from funds in innovation and entrepreneurship competitions, or they may need to prepare themselves; From a talent perspective, many universities have established bases such as science parks and maker spaces to promote the development of innovation and entrepreneurship education, in order to meet the needs of innovation and entrepreneurship. However, based on the actual situation, it cannot truly meet the needs.

## 2.5 Incomplete practical links in innovation and entrepreneurship education

During the study period in universities, theoretical knowledge is the main focus, and participation in practical activities is relatively low. Conducting innovation and entrepreneurship education for college students is of great significance in encouraging students to participate in practice and achieve a combination of practice and knowledge. At the same time, this also plays a key role in solving employment difficulties and helping to combine theory and knowledge. However, in actual innovation and entrepreneurship education, there are still problems with incomplete practical aspects. According to a survey, although some universities regularly carry out relevant practical activities in innovation and entrepreneurship education, they are only talking on paper and cannot truly accumulate practical experience for students. Entrepreneurship is a complex process that includes the process, hardships, and essence of entrepreneurship. Only by experiencing and experiencing it firsthand can students truly understand entrepreneurship. However, due to the lack of practical experience in innovation and entrepreneurship education, it is easy for students to form a resistance mentality, and even make some students give up their entrepreneurial ideas. In addition, although some innovation and entrepreneurship practice platforms aimed at universities regularly organize some innovation and entrepreneurship practice activities to accumulate entrepreneurial experience for students, in actual activities, students often participate in competitions for the sake of competition, which still makes innovation and entrepreneurship education lack practicality.

## 3. STRATEGIES FOR INNOVATION AND ENTREPRENEURSHIP EDUCATION FOR COLLEGE STUDENTS UNDER THE BACKGROUND OF "DOUBLE INNOVATION AND ENTREPRENEURSHIP"

### 3.1 Improve and implement innovation and entrepreneurship policies

The development of innovation and entrepreneurship education is of great help in solving the employment problem of college students, but due to the inadequate

implementation of relevant policies, it has formed significant constraints on the development of innovation and entrepreneurship education. the implementation of innovation and entrepreneurship education in the context of entrepreneurship and entrepreneurship is of great significance for promoting social development. Therefore, it is necessary to attach importance to the in-depth improvement and implementation of innovation and entrepreneurship policies, and truly provide support for innovation and entrepreneurship education in universities. Firstly, government departments should increase their attention and establish sound management institutions from a management perspective, specifically responsible for the implementation and supervision of innovation and entrepreneurship policies, to ensure that relevant policies can be truly implemented. Secondly, the government can implement preferential policies for relevant universities based on innovation and entrepreneurship education policies according to local conditions. For example, taxes and fees can be appropriately reduced, especially for college students who truly embark on the path of innovation and entrepreneurship after graduation. Taxes and fees can be appropriately reduced within the prescribed period to alleviate their financial pressure. Once again, as mentioned earlier, many universities have insufficient awareness of innovation and entrepreneurship education, which is related to the low level of publicity. Therefore, the government can actively cooperate with universities. Universities can also regularly invite entrepreneurs to give entrepreneurship lectures, share entrepreneurial experiences with college students, and organize regular courses on innovation and entrepreneurship policy interpretation for college students, Enable more college students to have a deeper understanding of innovation and entrepreneurship education and related policies. Finally, many college students face financial difficulties in the process of innovation and entrepreneurship. In addition to providing appropriate tax and fee reductions, the government can also actively call on relevant enterprises to establish special

funds in society. For students who can truly innovate and start their own businesses, fund support can be provided, such as small loans, and appropriate discounts can be given to help students overcome the difficulties in the early stages of innovation and entrepreneurship.

## 3.2 Optimizing the faculty of innovation and entrepreneurship for college students

Compared to theoretical courses in university majors, innovation and entrepreneurship education has strong comprehensive and practical characteristics, and requires a higher level of teaching staff. It not only requires strong professional qualities, but also rich practical experience. With the continuous development of innovation and entrepreneurship education and the continuous promotion of the background of entrepreneurship and entrepreneurship, universities should attach importance to building a more professional and practical teaching staff for innovation and entrepreneurship education. Therefore, it is necessary for universities to continuously strengthen investment, continuously improve the professionalism of the implementation team of innovation and entrepreneurship education, and strive to build a high-quality team of innovation and entrepreneurship teachers. Firstly, the education management department of universities should develop a training plan for innovative and entrepreneurial education teachers based on the current development status of universities, different majors, and other content. It is also necessary to add relevant incentive systems, optimize the promotion mechanism for professional titles, lay the foundation for teacher training, and also help attract more young teachers to participate in the team. Secondly, to address the issue of insufficient practical experience in the teaching staff, cooperation with enterprises can be carried out to invite multiple enterprise personnel to work, in order to compensate for the lack of practical experience in the teaching staff of innovation and entrepreneurship education in universities. Once again, it is necessary to actively engage in deep cooperation with enterprises, regularly select outstanding teachers from the school's innovation and entrepreneurship education faculty, and conduct on-the-job training within the enterprise to enrich knowledge and

accumulate experience, in order to improve one's own level of innovation and entrepreneurship education. Finally, the teaching staff of universities can also strengthen communication with innovation and entrepreneurship education teams from other universities, share experiences together, and continuously improve the overall level of innovation and entrepreneurship education.

## 3.3 Optimizing the Innovation and Entrepreneurship Curriculum System

A sound curriculum system is crucial in innovation and entrepreneurship education. Universities provide high-quality talents to various industries and fields in society every year, playing a crucial role in promoting social development and assuming indispensable responsibilities. Due to the complexity and particularity of innovation and entrepreneurship education itself, many universities have shortcomings in the construction of the curriculum system for innovation and entrepreneurship education, and even have a low level of attention, which restricts the sustainable development of innovation and entrepreneurship education. In this regard, current universities must increase their emphasis on innovation and entrepreneurship education. Education management departments should regularly organize teachers and management personnel, especially the teaching staff of innovation and entrepreneurship education, to jointly carry out ideological and political education related to innovation and entrepreneurship education, so that more teachers and staff can deepen their understanding of innovation and entrepreneurship education and actively participate in innovation and entrepreneurship education work. Not only that, in order to continuously improve and optimize the innovation and entrepreneurship education curriculum system, the curriculum system can be developed based on professional types, market trends, and relevant experiences from Western countries, combined with the actual situation of the profession. At the same time, it is necessary to add general education courses related to innovation and entrepreneurship education to convey innovative and entrepreneurial thinking to students; In addition, a curriculum system that matches innovation and entrepreneurship

should be established to enable students to continuously improve their innovation and entrepreneurship abilities while enhancing their innovative and entrepreneurial thinking.

## 3.4 Strengthen and improve the guarantee mechanism for innovation and entrepreneurship education

At present, many college students face financial difficulties in the process of entrepreneurship, which makes it difficult for them to move forward or even give up halfway. It can be seen that for innovation and entrepreneurship education, there must be a sound guarantee mechanism, which is the key to promoting the continuous development of innovation and entrepreneurship. As an important participant in innovation and entrepreneurship, universities can provide funding for innovation and entrepreneurship and create special entrepreneurial funds. As the promoter of innovation and entrepreneurship policies, the government should invite and encourage enterprises, institutions, successful individuals in business, etc. to establish innovation and entrepreneurship special funds. It can also provide certain preferential policies to enterprises or institutions participating in special fund investment, in order to establish a financial guarantee foundation for college students' innovation and entrepreneurship. To ensure the effective implementation of relevant guarantee mechanisms, relevant guarantee departments should be established within universities, responsible for communication and exchange with multiple units such as the government, universities, and the Ministry of Finance, and jointly responsible for ensuring the innovation and entrepreneurship of college students. At the same time, there should be a sound communication and handling mechanism to ensure that innovation and entrepreneurship related affairs can be efficiently resolved.

## 3.5 Actively Building a Practice Platform for Innovation and Entrepreneurship Education for College Students

Entrepreneurship is a process of continuous experimentation and practice, which requires students to have strong practical abilities. At present, there is a lack of practical education in innovation and entrepreneurship education in universities, which has formed constraints

on innovation and entrepreneurship education. As mentioned earlier, although universities have established corresponding innovation incubation parks and collaborative spaces, they cannot meet the practical needs of innovation and entrepreneurship. Based on this, in addition to the participation of universities, enterprises, governments, and social organizations can all participate to build a multi subject collaborative innovation and entrepreneurship practice platform, providing a high-quality platform for students' innovation and entrepreneurship practice; It is also possible to strengthen cooperation between schools and enterprises, regularly organize college students to practice within the enterprise, understand the professional norms of their profession, and enrich practical experience; Students who truly have entrepreneurial intentions can also be gathered within the school to participate in innovation and entrepreneurship competitions.

## 4. CONCLUSION

In the current context of innovation and entrepreneurship, universities are carrying out innovation and entrepreneurship education, and they are also facing certain difficulties in this field. In this article, the specific difficulties of innovation and entrepreneurship education in universities are elaborated and analyzed in depth, and several solutions are proposed, such as improving and implementing innovation and entrepreneurship policies, optimizing the teaching staff of university students in innovation and entrepreneurship, and optimizing the curriculum system of innovation and entrepreneurship education. It is hoped that this will help universities overcome the difficulties of innovation and entrepreneurship education, seize opportunities, and provide greater impetus for social development.

## REFERENCE

[1] Zhang Rongjuan Research on the Construction of Innovation and Entrepreneurship Curriculum System in Vocational Colleges Based on Employment Orientation [J]. Education Informatization Forum, 2023, (08):72-74

[2] Wu Liangying Construction of an Innovation and Entrepreneurship Talent Training Model for Vocational Colleges Based on the Integration of Industry and Education [J]. Research and Practice of Innovation and Entrepreneurship Theory, 2023, 6(15):127-129

[3] Jiang Dahua, Liu Yulan, Fei Hua, etc Exploration of Innovation and Entrepreneurship Practice Model for Engineering Graduate Students Based on the Integration of Industry and Education [J]. Research and Practice of Innovation and Entrepreneurship Theory, 2023, 6(13):131-134

[4] Kuang Hai, He Shi'an Research on the Progress of Cultivating "Double Innovation" Talents in Universities Based on the Construction of a Skill-based Society [J]. Shanxi Youth, 2023, (03):146-148

# The Importance and Methods of Eye Protection for Children and Adolescents

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**Abstract:** The eyes are one of the important perceptual organs. Currently, myopia in children and adolescents in China is showing a trend of early and high incidence, seriously affecting their physical and mental health and comprehensive development. Myopia can be prevented and controlled, so we need to achieve early prevention, early detection, and early intervention.

**Keywords:** Children And Adolescents; Eye Protection; Importance; Method

## 1. THE IMPORTANCE OF EYE PROTECTION FOR CHILDREN AND ADOLESCENTS

Eye health is crucial to life. Eyes are not only the main way to obtain information and feel the world, but also an important foundation for daily activities, work, and social interaction. Therefore, The eye health of children and adolescents is crucial as they are in the stage of visual development. A good visual experience is beneficial for learning, socializing, and improving overall quality of life. However, the widespread use of electronic products, reduced outdoor activities, and unhealthy lifestyle habits in modern lifestyles may have a negative impact on their eye health. Therefore, the importance of eye protection for children and adolescents cannot be ignored.

1.1 Maintain a good quality of life: With healthy eyes and clear visual abilities, one can enjoy the beauty of life, watch movies and entertainment, read books, appreciate art, and more. By protecting eye health, one can have a richer and more enjoyable life experience.

1.2 Improving learning efficiency: For children and adolescents, good eyesight is a prerequisite for achieving excellent grades. Clear visual ability helps with reading, writing, memory, and understanding, enabling them to acquire knowledge and learning skills more effectively.

1.3 Ensuring safety actions: Clear visual ability is crucial for maintaining safety. Good eye health can help us avoid obstacles, judge distances, identify traffic signs and vehicles, ensure the ability to make correct decisions during activities, and reduce the risk of accidents.

## 2. REASONS FOR EYE PROTECTION IN CHILDREN AND ADOLESCENTS

2.1 In the stage of visual development: Children and adolescents are in the stage of visual development, during which the external environment may have a long-term impact on visual development.

2.2 Rapid increase in myopia: In recent years, the myopia rate in children and adolescents has shown a trend of increasing year by year. Overuse of electronic devices, lack of outdoor activities, and prolonged close range reading are all considered the main reasons for the surge in myopia.

2.3 Other eye health issues: In addition to myopia, children and adolescents may also face other eye health problems, such as blepharitis, dry eye syndrome, eye fatigue, etc. These issues will all affect their learning and quality of life.

2.4 Direct access to external information: the eyes can directly access external information, such as the color of objects, knowledge from books, etc. Protecting your eyes is beneficial for keeping abreast of external changes and can also help filter out the information you want to obtain.

2.5 Protecting vision: If the eyes are damaged, vision is prone to decline and may lead to blurred vision. Therefore, it is necessary to take good eye protection measures to help protect vision.

2.6 Support physical activity: the function of the eyes can play a role in supporting physical activity, such as running, doing fitness exercises, crossing obstacles, etc. In daily life, it is necessary to protect the eyes from external harm to prevent normal activities from being restricted.

## 3. METHODS OF EYE PROTECTION FOR CHILDREN AND ADOLESCENTS

3.1 Control the use of electronic products: Reduce the amount of time children and adolescents use electronic products, especially in cases of prolonged continuous use. It is recommended that the interval between using electronic products should be appropriate, and attention should be paid to maintaining a certain distance and posture during use.

3.2 Encourage outdoor activities: Encourage children and adolescents to engage in outdoor activities, enjoy the sunshine and natural environment. Outdoor activities can help regulate the eye's ability to adjust to long distances, reducing the occurrence of eye fatigue and myopia.

3.3 Maintain good reading habits: When reading, maintain the correct posture and ensure sufficient light to avoid prolonged continuous reading. Regularly engage in eye relaxation exercises to reduce eye fatigue.

3.4 Balanced nutrition: Maintaining good dietary habits and sufficient intake of vitamins and minerals is beneficial for eye health. the nutrients rich in food, such as chlorophyll, vitamin A, vitamin C, and vitamin E, are beneficial for eye health.

3.5 Regular eye check ups: Conduct regular eye checks to promptly identify and address eye health issues. Eye examination can not only detect vision problems, but also examine the health status of other aspects of the eyes.

3.6 Enhance educational awareness: Enhance the awareness and importance of parents and children towards eye health, and let them understand the importance of good eye protection habits for eye health.

3.7 Standardized eye exercises: Eye exercises are a type of acupoint massage around the eyes guided by traditional Chinese medicine theory. They can stimulate nerves, relax eye muscles, promote blood circulation in the eyes, and relieve eye fatigue. Serious and standardized eye exercises after continuous eye use can provide sufficient rest for the eyes, improve visual fatigue symptoms, and help prevent and control myopia. When doing exercises, it is important to clean your hands, locate the acupoints accurately, and apply sufficient force to avoid slight soreness and swelling.

## 4. METHODS FOR PREVENTING AND TREATING MYOPIA IN CHILDREN AND ADOLESCENTS

4.1 Control eye distance: Myopia in children and adolescents may be caused by long-term close range eye use, poor lighting, and poor eye habits, which can lead to decreased vision and blurred vision in the distance. Children and adolescents need to pay attention to the distance of their eyes, try to control it at 33cm or more, avoid long-term close range eye use, and maintain a good sitting posture during learning, which can achieve the effect of preventing myopia.

4.2 Ensure adequate sleep time: Children and adolescents also need to ensure sufficient sleep time to allow their eyes to rest, avoid eye fatigue, and prevent myopia.

4.3 Improving the eye environment: Children and adolescents need to improve the eye environment when using their eyes. They should not study in dark or bright environments, and should not frequently look at electronic devices such as mobile phones or computers. They should also increase outdoor activities in moderation to prevent myopia.

4.4 Diagnose myopia by following medical advice for dilated pupils: When parents observe abnormal conditions such as close proximity or squinting of the child's vision, or when screening shows a decrease in vision, they should promptly go to a medical institution for examination. Mydriatic optometry is a medical optometry method that uses ciliary muscle paralyzers to relax the eye's regulatory effects, and is considered the "gold standard" for diagnosing myopia. Mydriatic medication does not cause damage to healthy eyes, and short-term photophobia and unclear vision may occur after medication. After discontinuing medication, it usually returns to normal. Parents should have a correct understanding of the role of dilated pupil optometry, follow the doctor's advice for examination, make a clear diagnosis, and take appropriate treatment measures.

4.5 Diagnosed myopia and timely intervention: Once diagnosed with myopia, scientific intervention should be carried out in a timely manner. Wearing appropriate glasses can effectively correct vision problems and delay the progression of myopia. For patients with normal vision after wearing glasses, it is recommended that preschool children and elementary school students undergo a check-up every 3-6 months, and middle and high school students undergo a check-up every 6-12 months to decide whether to replace their glasses based on specific circumstances. In addition, suitable techniques for traditional Chinese medicine such as ear acupoint pressure pills have been proven by evidence-based medicine to control the progression of myopia, but they need to be standardized under the guidance of professional physicians.

## 5. CONCLUSION

The eyes are important organs in the human body. If not properly protected, it can affect one's vision, thereby affecting the learning process of children and adolescents during their growth, and even their work and life as they grow up. Protecting the eyes of children and adolescents requires developing good eye habits, adjusting daily diet appropriately, and paying attention to the safety of the surrounding environment. Develop good eye habits, pay attention to eye hygiene, and do not rub your eyes casually, especially when your hands are not clean. Strictly control the time spent watching electronic devices such as TV, mobile phones, or tablets, as well as the distance and duration of eye use, to develop good eye habits. Adjust your daily diet appropriately to achieve a balanced diet. You can consume foods containing vitamin A, such as milk, eggs, carrots, as well as dark green vegetables containing lutein, such as spinach and cabbage. Pay attention to the safety of the surrounding environment. Parents should pay attention to the furniture and decorations at home to prevent harm to their eyes.

Eye protection for children and adolescents cannot be ignored. By controlling the use of electronic products, encouraging outdoor activities, maintaining good reading habits, balanced nutrition, regular eye examinations, enhancing educational awareness, and standardizing eye exercises, children and adolescents can effectively promote visual development and protect their eye health. Let's jointly pay attention to the eye health of children and adolescents, so that they can have a clear and comfortable visual experience and enjoy a better life.

## REFERENCES

[1] Huang Yaling. Effective Strategies for Protecting Children's Vision [J]. Early Education, 2022, (40):54-55.

[2] Cai Jizhou. Pay attention to visual protection [J]. Opening a book is beneficial (seeking medical advice), 2014, (10):79.

# On the Humanistic Quality Education of Nursing Education in Vocational Colleges

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**Abstract:** Strengthening the infiltration of humanistic quality education in nursing education in vocational colleges and cultivating high-level nursing talents who can undertake human health services and possess humanistic qualities is the urgent task and necessary path to improve modern nursing education. This article discusses some personal opinions on the humanistic quality education of nursing education in vocational colleges.
**Keywords:** vocational colleges; Nursing education; Humanistic quality education

## 1. THE CONNOTATION OF HUMANISTIC QUALITY EDUCATION

Humanistic quality, in a broad sense, refers to the inner spiritual character of a person to become a person and develop into a talent. This spiritual character converges in the national spirit, which serves as the backbone of the national spirit, from a macro perspective; Reflected in people's temperament and value orientation. Narrowly speaking, it refers to the internalization of humanistic knowledge and skills, mainly referring to a person's cultural quality and spiritual character.

Humanistic quality is the knowledge about "human understanding of oneself". the fundamental aspect of being a good person lies in cultivating one's qualities. Developing humanistic qualities means learning to be a good person, guiding people to think about the purpose, meaning, and value of life, developing human nature, improving personality, and inspiring them to be a true person, a wise person, and a cultured person. the cultivation of humanistic qualities begins with human nature

Humanities education is the process of internalizing the excellent cultural achievements of humanity through knowledge transmission and environmental influence, transforming them into personality, temperament, and cultivation, and becoming a relatively stable internal character of individuals. Humanistic quality is the concentrated embodiment of national cultural quality, and humanistic spirit is the core content of national cultural quality.

## 2. THE NECESSITY OF STRENGTHENING HUMANISTIC QUALITY EDUCATION IN NURSING EDUCATION IN VOCATIONAL COLLEGES

### 2.1 Strengthening humanistic quality education is a requirement for the development of modern medical society

With the transformation of medical models, the reform of healthcare systems, and the aging of the population, the scope of nursing services has expanded from treatment to prevention, from physiology to psychology, from hospitals to communities, and from individual businesses to group societies. This requires nurses to not only possess skilled nursing skills, but also possess love, patience, responsibility, and the ability to communicate effectively with others in order to be competent in clinical nursing work. the transformation of nursing concepts requires us to make corresponding changes in nursing education, changing the bias of only focusing on human biological characteristics and neglecting human social and spiritual aspects in the past, and vigorously strengthening humanistic quality education.

### 2.2 Strengthening humanistic quality education is a requirement of modern nursing centered on human health

With the development of social economy and the improvement of human health level, patient-centered care can no longer meet people's health needs. With the rapid development of science and technology,

bacterial diseases have been well controlled. However, diseases related to human behavior and lifestyle, such as cardiovascular and cerebrovascular diseases, malignant tumors, diabetes, psychosis, and accidental injuries, have become major problems threatening human health. the changes in the spectrum of diseases have led to a shift in people's health concepts, and the enjoyment of health has become a fundamental right of every citizen. Nurses should not only focus on the health recovery of patients, but also pay attention to the potential health issues of everyone, including physiological, psychological, social, cultural, and spiritual aspects. This requires nurses to provide diversified services that are suitable for each service object's characteristics. To provide diversified nursing services, it is necessary for nursing staff to have diverse knowledge, skills, and concepts, and humanistic qualities are the foundation for mastering other abilities, as well as social and interpersonal communication.

## 2.3 Humanistic quality education is an important means for the comprehensive development of nursing students in vocational colleges

The development of nursing education should not only cultivate nursing students into "mechanical repairmen" who can inject and dispense medicine, but also start from cultivating students' professional ethics, psychological quality, cultural taste, aesthetic taste, spiritual sentiment, cognitive ability, etc. It should also comprehensively improve students' comprehensive quality in establishing correct values, cultivating national spirit, improving thinking methods, and enhancing non intellectual factors. This requires paying attention to the cultivation of humanistic qualities among vocational nursing students, enabling them to understand humanities, society, and history, broaden their horizons, improve their adaptability, and enable them to grow into individuals with good humanistic cultivation, high understanding, recognition, and adaptability to various social phenomena.

## 3. MEASURES FOR STRENGTHENING NURSING HUMANITIES EDUCATION IN VOCATIONAL COLLEGES

## 3.1 Establishing the concept of modern high-level nursing talents and strengthening the construction of humanities disciplines

Establish a quality education and training goal that is in line with the development of modern medicine and the concept of human health, with the aim of improving the comprehensive quality of students. Establish education as the center, and focus on cultivating students to form a complete and beautiful personality, a healthy and complete personality, a spirit of freedom and openness, and a consciousness of innovation and exploration. Carry out humanistic quality education, correct the previous tendency of only focusing on technology, profession, and employment, and cultivate vocational nursing talents with exquisite professional skills, broad knowledge, high scientific literacy, and solid humanistic literacy. Therefore, it is necessary to attach importance to the development of humanities, ensure the teaching needs of humanities in curriculum design, resource allocation, funding investment, teacher training, and other aspects. In nursing education in vocational colleges, compulsory and elective courses in humanities and social sciences, especially in history, philosophy, art, literature, psychology and other humanities courses, should be offered to cultivate a high sense of responsibility and career spirit among vocational nursing students, cultivate their good psychological qualities and professional ethics, and lay the foundation for them to receive systematic humanities education and personal lifelong development.

## 3.2 Infiltrating humanistic spirit in the teaching process of nursing professional courses

Humanities quality education should be implemented in the teaching process of all nursing professional courses. Explore the factors of humanistic education in professional courses, leverage the function of humanistic education, and enable students to be influenced by humanistic knowledge while learning science and culture. At present, the teaching of nursing courses occupies most of the time of vocational nursing students and is highly valued by them. If the spirit of humanistic education is integrated and infused into the professional courses that students are

most concerned about and spend the most time and energy on, humanistic quality education can achieve twice the result with half the effort. Teachers should not only provide positive preaching through words and deeds, but also integrate professional ethics education into their professional courses. For example, during internships, teachers can learn the high moral character of saving lives, helping the injured, and serving the people wholeheartedly based on the excellent medical workers witnessed by students; In the classroom, touching stories of medical nursing technology inventors pursuing truth and dedicating themselves to science can be interspersed to teach students, so that they can be mentally moved, recognize their shortcomings and deficiencies, and actively make up for them.

## 3.3 Strengthen campus cultural construction and create a good humanistic atmosphere

The education of humanities not only relies on tangible curriculum education, but also needs to cooperate with invisible campus culture. the humanistic atmosphere of the campus environment has a strong and subtle impact on the education of vocational nursing students. Strengthening the construction of campus culture is the main form of guiding humanistic quality education and cultural enlightenment in vocational colleges. In the overall construction of campus culture, we can organize activities such as nurse etiquette exhibitions, personal talent performances, and lectures by renowned nursing experts based on the characteristics of the nursing profession. We can also hold lectures and speeches with the theme of cultivating the moral character and quality cultivation of vocational nursing students, permeating the ideas of humanistic education into implicit courses, and establishing a lively, healthy, and upward campus culture. Strengthen the construction of humanistic quality education in promotional columns and websites, and create a good educational atmosphere. Setting up a statue of Nightingale on campus, arranging Nightingale's oath in the classroom corridor, and introducing the deeds of previous Nightingale Award winners, so that students can be infected and influenced in a good humanistic atmosphere.

## REFERENCES

[1] Fang Shunshi, Liu Shoupeng. Exploration of the Significance, Characteristics, and Effective Implementation of Humanistic Quality Education in Vocational Colleges [J]. Science and Education Wenhui (Mid Decadal), 2021, (14):153-154. DOI: 10.16871/j. cnki. kjwhb. 2021.05.070.

[2] Zhang Chunlei. Exploration of the Lack and Reconstruction of Humanistic Quality Education for Vocational College Students [J]. Knowledge Library, 2020, (20):84-85.

# Exploration of Problems and Countermeasures in Practical Training of Basic Nursing in Higher Vocational Education

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**Abstract:** In the new era, various industries have achieved rapid development and higher requirements for talents, which is a new challenge for the education industry. Education workers need to increase their efforts to promote teaching reform and promote social development. At present, some achievements have been made in nursing teaching reform. Teachers should not only help students improve their basic nursing knowledge reserves, but also do a good job in practical training and teaching, enhance their practical operation level, and ensure that students can meet the requirements of nursing related positions. This article briefly introduces the problems existing in the process of basic nursing practical training teaching, and proposes corresponding measures, hoping to provide reference for the development of basic nursing practical training teaching in vocational colleges.

**Keywords:** Higher Vocational Education; Basic Nursing Practical Training Teaching; Problem; Countermeasure

## 1. INTRODUCTION

Basic nursing is a prerequisite for teaching nursing courses, and only by fully understanding the knowledge of this subject can students meet their subsequent professional learning needs. the practical training teaching method will have a direct impact on the teaching effectiveness of basic courses, and teachers need to pay full attention to it, clarify the problems that arise during the practical training teaching process, and develop reliable measures to optimize and improve the quality of basic nursing practical training teaching.

## 2. THE ROLE OF IMPROVING THE TEACHING LEVEL OF BASIC NURSING PRACTICAL TRAINING IN VOCATIONAL COLLEGES

### 2.1 Can make classroom teaching more efficient

The application of practical training teaching method in basic nursing teaching can effectively address the problems that students encounter during the learning process, reduce the difficulty of understanding, and help students grasp the key and difficult points of teaching. In this stage, students can also gain novel experiences and enhance their basic nursing skills. In addition, the scenario created by practical training teaching is authentic and can provide students with opportunities to apply nursing knowledge to solve real-life work problems.

### 2.2 Can meet the personalized needs of different students

Due to differences in students' intellectual level and knowledge reserves, their ability to carry out basic nursing learning also varies. If teachers use a fixed teaching mode to concentrate teaching activities, it is likely to cause some students who have already understood the relevant knowledge to lack learning enthusiasm. the application of practical training teaching mode can create real scenarios and reasonably divide tasks based on students' knowledge reserves, ensuring that all students can gain something in the learning process.

## 2.3 Enhance students' enthusiasm for learning

Due to the relatively complex and trivial knowledge of basic nursing, students may experience a lack of concentration and enthusiasm for learning during the learning process. With the help of practical training teaching methods, students can be more focused and guided to feel the charm of basic nursing, ensuring the level of basic nursing classroom.

## 3. PROBLEMS IN THE PRACTICAL TRAINING OF BASIC NURSING IN VOCATIONAL COLLEGES

### 3.1 Short opening hours of nursing training rooms

At present, most nursing training rooms in vocational colleges are only open at night and cannot be used on weekends. In addition, there are fewer projects available in the nursing training room, which results in some students with lower nursing levels being unable to carry out repeated training based on their own situation. In addition, the low level of thinking among students and the limited availability of resources, facilities and equipment have to some extent hindered their subsequent development.

### 3.2 There is a certain lag in the teaching methods of nursing practical training

With the improvement of people's quality of life, there are new standards for the quality of nursing services. However, when carrying out nursing practical training teaching, teachers still insist on using the original theories and operational techniques, making it difficult for the students trained to adapt to clinical practice requirements.

### 3.3 The assessment method used is not reasonable

When assessing students, schools still insist on evaluating their actual operational abilities on a semester by semester basis. This assessment method only focuses on whether students operate in a standardized manner, while ignoring the practical needs and experiences of patients. Students lack communication skills with patients, making it difficult to help them deal with real-life problems in clinical nursing operations.

### 3.4 Nursing training equipment is idle

In nursing training rooms, some instruments have high value and can only be used by a few training teachers, resulting in a large number of instruments and equipment not being fully utilized. In addition, the professional competence of nursing training management personnel is relatively low, and they do not regularly repair and maintain the equipment according to relevant standards, resulting in serious damage to the instruments and equipment, making it difficult to provide support for the development of nursing training activities. In addition, the school did not conduct evaluations during the procurement of equipment and equipment, resulting in the purchased equipment having a single function and difficult to meet the needs of nursing practical training teaching.

## 4. IMPLEMENT EFFECTIVE TEACHING STRATEGIES FOR VOCATIONAL BASIC NURSING TRAINING

Practical training is an important part of basic nursing teaching in vocational colleges, which will have an impact on the development of nursing students. Therefore, teachers must increase their emphasis on practical training teaching, clarify the problems and factors that arise during the practical training teaching process, and develop reliable measures to improve the quality of practical training teaching. Teachers can start practical training and teaching activities from the following points:

### 4.1 Extending the opening time of nursing training rooms

Vocational colleges with conditions should extend the opening hours of training rooms when carrying out basic nursing practical training teaching, and try to ensure that the training rooms can be open all day as much as possible. And with the help of the training room, students can enhance their practical operation ability, language expression ability, and cooperation ability, ensuring that they can identify and solve problems. During this process, students can also be responsible for managing practical training equipment and materials, improving their self-management level. It should be noted that when selecting practical training programs, diversity should be maximized to ensure that students can

recognize their weaknesses and carry out repeated training.

## 4.2 Updating nursing practical training teaching methods

To ensure the quality of nursing practical training teaching, it is necessary to use different nursing practical training teaching methods in a targeted manner. For example, considering the characteristics of nursing operation projects, different teaching methods such as role-playing, scenario simulation, and case analysis should be used to make abstract knowledge more intuitive and enhance the level of practical training teaching.

## 4.3 Innovative nursing practical training assessment mode

To improve the quality of nursing practical training teaching, it is necessary to use various different methods to assess students based on the originally semester based skill assessment model. For example, combining process assessment with outcome assessment, while analyzing whether students can proficiently apply nursing skills, analyzing their classroom performance, teamwork ability, etc., can enhance their overall strength. After the assessment, it is also necessary to motivate students, help them build self-confidence, and encourage them to actively engage in learning.

## 4.4 Increase investment in nursing practical training

Vocational colleges need to purchase modern instruments and equipment and create specialized training bases when carrying out basic nursing practical training teaching. In this process, it is also necessary to establish deep cooperation with affiliated hospitals, take into account the actual needs of affiliated hospitals, optimize nursing training content, and establish contact with nursing experts to build a strong overall teaching team. It should be noted that staff should establish effective procurement plans before purchasing equipment, reasonably plan the use of various equipment, and prevent equipment from being wasted.

## 5. CONCLUSION

When vocational colleges carry out basic nursing practical training teaching, they should consider the new needs of nursing and health development as well as the actual needs of different students, make targeted adjustments to the training content, enhance students' nursing level, and lay a good foundation for their subsequent development.

## REFERENCE

[1] Yao Lin the application of situational teaching method in the teaching of basic nursing technology training courses [J]. Industry and Technology Forum, 2021, 20(24):191-192.

[2] Liao Fenfang Research on the Application of Nursing Skills Competition in the Practical Training of Basic Nursing in Vocational Colleges [J]. the Road to Success, 2021, (34):115-117.

[3] Yin Pei, Chen Ruiping the impact of basic nursing practical training reform on the self-learning ability of nursing students in universities [J]. Industry and Technology Forum, 2021, 20(22):87-88.

# The Reference Significance of Modern Graphic Design for Ceramic Art

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**Abstract:** With the passage of time, the speed of development of the times is accelerating. China has thousands of years of traditional historical and cultural heritage, and ceramics, as a form of traditional ethnic art, contain rich cultural colors and constantly have a great impact on people from ancient to modern times. With the advent of a new era, many novel artistic elements gradually emerge before people's eyes, and the novelty of these elements also attracts the attention of the ceramic manufacturing industry. Under the impact and integration of traditional ethnic culture and novel artistic elements, it brings new inspiration to ceramic graphic designers, greatly improving the overall visual effect of ceramics and continuously expanding the market scope. Therefore, this article analyzes and explores the reference significance of modern graphic design for ceramic art, hoping to provide reference basis for peers.

**Keywords:** Modern graphic design; Ceramic art; Reference significance

## 1. INTRODUCTION

Graphic design mainly uses visual senses to express the emotions of the creator on the surface of things, enriches language and art through artistic design, integrates symbols, images, and text in various ways, and tightly conveys individual ideas or creates strong impacts in the visual world, promoting the viewer's thoughts and emotions to reach climax and producing strong shock effects. If modern graphic design is applied to ceramic art, it not only involves different ethnic artistic atmospheres and inherits more Chinese art and culture, but also can bring different visual experiences to viewers through strong colors, constantly rendering their thoughts, and feeling the unique charm of ceramic art.

## 2. OVERVIEW OF MODERN CERAMIC DESIGN

Modern ceramic art is different from traditional ceramic art. Modern ceramic art places particular emphasis on the innovation and personalization of appearance design, with meeting the aesthetic needs of modern audiences as its core. the term pottery mainly originated from Japan and has been widely used in related industries in China in recent years with the increasing dissemination of culture. As one of the four ancient civilizations, China has a history and cultural heritage of thousands of years in the field of pottery. Ceramic art in China is mainly based on ceramics, and the design of modern ceramics mostly combines the typical characteristics of ancient traditional ceramics, forming different structural types and style changes in the long-term evolution of the times. the specific distinction lies in the fact that modern ceramic art is mainly based on the characteristics of the times and people's aesthetic needs, while traditional ceramic art is mainly based on the culture, symbols, and texts prevalent in ancient times, but presents completely different ceramic effects in visual presentation. From ancient times to the present, China has been known as a "porcelain power", and its porcelain has a great influence internationally. In recent years, the entry of many foreign friends has given them a new understanding of China's traditional culture and constantly refreshed their traditional concepts. However, the long-term accumulation of traditional culture has not only failed to attract the attention of modern ceramic designers in China, but also overly inclined towards other aspects. Similarly, there has been a lack of reasonable reference to the design concepts of foreign porcelain, resulting in the slow development of modern ceramic art in China and the inability to keep

up with the trend. From a deeper perspective, modern ceramic art itself has strong tension and practicality, injecting vitality into the appearance of ceramics through different aesthetic elements, and attracting a large number of people's attention. Modern ceramic art itself contains many cultural connotations and has become a carrier for inheriting the spiritual civilization of modern society. It carries a large amount of modern cultural spirit, allowing people to approach the natural realm during the appreciation process, enhance their life experience, and change the traditional appreciation perspective.

From the perspective of the characteristics of modern ceramic art creation, most of them are composed of two parts: pottery and porcelain. the production principle is mainly based on practicality, which can be used as decorative items in contemporary life, highlighting people's different personality traits. It can also detect a trace of emotions through subtle details and deeply understand their psychological changes. Modern ceramic art still relies on traditional ceramic design in the creative process, incorporating modern creative ideas and gradually reflecting personalized and innovative characteristics. Not only that, the creative concept has a sense of the times and is vastly different from traditional design concepts, requiring designers to have rich imagination and creative abilities. Moreover, it is not heavily influenced by external factors and has a spacious design space. In the final analysis, the actual characteristics of modern pottery are concentrated in the following aspects: on the one hand, with the fundamental purpose of meeting the spiritual needs of contemporary people and adjusting their attitudes towards life, it has become an emotional expression form of spiritual sustenance; On the other hand, the creative techniques are diverse and no longer limited to the same type. They attempt to boldly innovate and improve from multiple perspectives, bringing visual and spiritual impact to the audience, far exceeding traditional design concepts, and providing designers with space for self creation.

## 3. THE REFERENCE SIGNIFICANCE OF MODERN GRAPHIC DESIGN FOR CERAMIC ART

### 3.1 Drawing inspiration from the beauty of form and order

The beauty of form and order are the key points of art design that graphic designers attach great importance to, and they are also a consideration element for highlighting the aesthetic and visual effects of ceramics, which can meet the designer's needs for visual impact on people's images. the beauty of form and order is the clear expression of design intentions in ceramic works, becoming a carrier of creative ideas, requiring a complete and unified visual structure as a whole. In the process of borrowing from it, it is beneficial for the overall structural balance of ceramic art, bringing people a comfortable and harmonious visual effect, preventing visual barriers for viewers, meeting the spiritual needs of many people for appreciating art works, and easily expressing specific information.

### 3.2 Reference to Consumer Interaction Ability

Chinese ceramic art has been passed down for thousands of years, and under the unknown inheritance of thousands of years, its artistic transmission method also needs to be improved. It attempts to draw inspiration from graphic design, continuously expand design ideas, and meet the spiritual needs of current people as much as possible. Ceramics is a traditional handicraft that, after years of technical polishing and optimization, has consumed almost every ceramic artist's time. Their craftsmanship spirit is admirable and also a place for many professionals in the industry to learn from. However, there may still be some shortcomings. the vast majority of ceramic artists possess a noble craftsmanship spirit, especially in the production of their works, where they pay great attention to excellence. Whether in terms of craftsmanship or expression of ideas, there must be no difference in details, but they have not truly considered the actual needs of the market and ignored the emotional expression of consumers. the application of modern graphic design can continuously expand the sales channels of products and has strong promotional functions. If applied in ceramic art, from the perspective of consumer psychology and spirit, it can continuously enhance consumer interaction ability,

demonstrate their value in the industry, meet the aesthetic needs of more viewers, generate strong aesthetic resonance, further drive the consumer market, invisibly spread ceramic art, and feel the unique beauty it brings.

## 4. CONCLUSION

As explained in the previous text, although the development of graphic design in China has been relatively slow and often draws inspiration from many foreign designs, it does not involve the unique cultural elements of our nation. This is also the key point that modern graphic design should be reasonably improved. If modern graphic design is applied to ceramic art, designers will combine different external ceramic shapes and other people's suggestions, and appropriately integrate Chinese national culture while introducing some common foreign elements. For example, starting from the things themselves, personalized artistic styles will be designed, incorporating ethnic customs, customs, etc., to stimulate creative inspiration and gradually break away from foreign design spaces, Create your own artistic design style to make ceramic art more vivid and attractive to more people.

## REFERENCE

[1] Yang Hui Exploration of Innovative Design Points in Ceramic Art and Modern Works [J]. Foshan Ceramics, 2022, 32(08):160-162.

[2] Xu Ying, Zhou Yuan Exploring the Innovative Application Path of Ceramic Elements in Modern Art Design [J]. Packaging Engineering, 2020, 41(08):305-308.

[3] Li Rong Exploration of the Influence of Ceramic Patterns on Modern Chinese Graphic Design [J]. China Packaging Industry, 2017, (17):70.

# Reflection on the Ideological and Political Construction of University Physical Education Curriculum from the Perspective of "Three Comprehensive Education"

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**Abstract:** With the continuous development of higher education, the value of physical education courses in universities has become increasingly apparent, and the ideological and political construction of physical education courses has become more important. Therefore, universities and colleges need to clarify the requirements for "comprehensive education" while analyzing the basic principles of ideological construction in university physical education courses, in order to promote the effective development of ideological construction in physical education courses. Based on this, this article provides a comprehensive reflection on the ideological and political construction of university physical education courses from the perspective of "comprehensive education", hoping to provide some help for the development of related work.

**Keywords:** "Three comprehensive education"; College sports; Course ideological and political construction

## 1. INTRODUCTION

An in-depth analysis of the ideological and political education concept in the curriculum reveals that it essentially refers to a modern educational concept that strictly adheres to socialist core values and promotes the deep implementation of the "moral education" task based on the laws of educational development and human growth. Based on the actual situation, physical education courses should fully implement the concept of health education, and reasonably integrate various educational contents such as traditional culture and patriotism, so as to help students strengthen their own beliefs and lay a solid foundation for the improvement of their sense of national responsibility. From the perspective of "comprehensive education", universities need to fully implement ideological and political education, and leverage the emotional attitude and guiding role of teachers to effectively carry out ideological and political construction in physical education courses, thereby promoting the healthy development of college students.

## 2. THE BASIC PRINCIPLES FOLLOWED IN THE IDEOLOGICAL AND POLITICAL CONSTRUCTION OF UNIVERSITY PHYSICAL EDUCATION COURSES

At present, ideological and political education in university physical education courses can not only fully implement the Party's educational policy, but also provide guarantees for the full play of the function of ideological and political education. Therefore, physical education courses have an undeniable value in ideological and political education. Based on the actual situation, the construction of ideological and political education in physical education courses can fully highlight the connection between physical education knowledge, skills, and ideological and political education content, and promote the achievement of physical education goals under the promotion of ideological and political education content. Therefore, the ideological and political construction of university physical education courses should be based on the educational goal of cultivating

morality and talents, ensuring the consistency between educational practice and educational goals, and making unremitting efforts for the comprehensive development and social progress of university students. In this context, the construction of ideological and political education in university physical education courses needs to fully follow the principle of combining moral education and physical education. While providing a carrier for moral education, it is necessary to use moral education to improve the quality of course teaching, ultimately ensuring that students can receive ideological and political education in physical education courses. While guiding students' thinking, it is also necessary to cultivate their social adaptability.

In addition, the construction of ideological and political education in physical education courses also needs to strictly follow the principle of the unity of internal drive and external manifestation among teachers and students. Teachers themselves are one of the main factors affecting the construction of ideological and political education in physical education courses. Only by continuously improving their own ideological and political education abilities and meeting the requirements of ideological and political education in physical education courses can university physical education teachers further promote the achievement of the goals of ideological and political education in physical education courses. As individuals with independent personality and thinking ability, the behavior of college students depends on their level of ideological and moral literacy. By using physical education courses as a carrier, it can help students internalize ideological and political education content while promoting the formation of good values. Finally, with the increasing influence of international sports culture, university physical education teachers should actively participate in curriculum ideological and political construction, coordinate the relationship between Chinese sports culture and international sports culture, and enhance students' ideological identification with Chinese sports culture, thereby achieving good patriotic theme education goals in physical education courses.

## 3. REFLECTION ON THE PATH OF IDEOLOGICAL AND POLITICAL CONSTRUCTION IN UNIVERSITY PHYSICAL EDUCATION COURSES

### 3.1 Strengthening top-level design

In order to achieve good results in the ideological and political construction of physical education courses in universities, universities need to continuously strengthen the top-level design of ideological and political courses, in order to promote the achievement of the goals of ideological and political construction in physical education courses. In this process, universities should have a correct understanding of the ideological and political education value of physical education courses, and combine with the requirements of "comprehensive education" to develop a scientific system for the construction of ideological and political education in physical education courses, guiding physical education teachers to actively participate in the construction of ideological and political education in physical education courses. Secondly, universities should establish a curriculum ideological and political construction research organization based on the school party committee, strengthen the connection between the academic affairs department and the physical education teaching department, and fully leverage the educational value of physical education courses by using curriculum ideological and political education as the standard for university physical education curriculum reform, promoting students to establish good values in physical education teaching activities. In addition, universities should also coordinate and manage the ideological consensus on the ideological and political construction of physical education courses, so as to ensure that the academic affairs department, physical education teachers, and others can correctly understand the ideological and political value of physical education courses from the ideological level, and lay a solid foundation for the ideological and political construction of physical education courses. Finally, on the basis of clarifying the characteristics of physical education courses, universities should carry out ideological and political design work for physical education courses from multiple

perspectives such as ideology, objectives, content, and textbooks, ultimately ensuring that the systematic level of ideological and political construction in university physical education courses can be improved. Overall, the top-level design of ideological and political construction in physical education courses is the foundation for achieving the goals of ideological and political construction in university physical education courses. Therefore, universities need to strengthen top-level design to fully highlight the educational value of university physical education courses, clarify ideological and political goals, expand the path of ideological and political construction of university physical education courses, and achieve good construction results.

## 3.2 Innovative methods of ideological and political education

From the perspective of "comprehensive education", when implementing the ideological and political construction of university physical education courses, it is first necessary to deeply explore the ideological and political education elements contained in physical education courses, and scientifically integrate ideological and political education content based on the teaching objectives and textbooks of university physical education courses. Based on the actual situation, the ideological and political construction of university physical education courses is not simply integrating ideological and political education content into physical education courses. Therefore, teachers need to deepen physical education courses and strengthen the implementation of ideological and political elements in physical education courses, so as to ensure that students receive ideological and political education while participating in physical education courses, and promote the good effect of internalizing and externalizing ideological and political construction in physical education courses. Secondly, university physical education teachers also need to conduct in-depth analysis of students' ideological and political development status, physical characteristics, etc. in the construction of curriculum ideological and political education. Based on truly clarifying the development needs of students, they should strengthen the connection between teaching and learning,

and ultimately use the construction of curriculum ideological and political education to promote the improvement of students' ideological and political literacy. Finally, teachers should accurately grasp the degree of ideological and political construction in the curriculum, follow the characteristics of ideological and political education in university physical education courses, start from the perspective of student interests, naturally and appropriately integrate the principles of ideological and political education, and enable students to actively participate in university physical education courses.

## 4. CONCLUSION

In summary, with the development of higher education, the value of ideological and political construction in physical education courses has become increasingly apparent. Therefore, universities need to clarify the principles of ideological and political construction in physical education courses from the perspective of "comprehensive education" and actively explore the path of ideological and political construction in courses. In this process, universities can strengthen the top-level design of ideological and political construction in physical education courses, clarify the ideological and political goals in physical education courses, and scientifically innovate ideological and political education methods, ultimately laying a solid foundation for the full play of the educational value of physical education courses in universities and the improvement of the quality of ideological and political construction in courses. This ensures that students can have access to good ideological and political education when participating in physical education teaching activities, Furthermore, in the process of effectively expanding the model of ideological and political education in universities, it promotes the formation of healthy ideological values and patriotic sentiments among students.

## REFERENCE

[1] Wang Ke Research on the Construction of the Ideological and Political System of Public Physical Education Curriculum in Universities under the Concept of Three

Comprehensive Education Writer's World, 2021, (17):150-151.

[2] Wang Qifu A Study on the Development of Ideological and Political Education in Public Physical Education Courses in Universities under the Concept of Three Comprehensive Education Writer's World, 2021, (16):141-142.

[3] Wang Qifu, Yang Fei, Li Jian Research on the Development of Ideological and Political Education in College Physical Education Curriculum under the Concept of Three Comprehensive Education Fujian Tea, 2020, 42(03):426.

# A Study on the High Quality Development Path of Service Transformation in University Libraries

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**Abstract:** Universities are an important component of China's complete education system and the main battlefield for cultivating outstanding talents. Therefore, universities usually have top-notch educational resources, including hardware facilities and teaching staff required for teaching. University libraries are one of the important teaching facilities, playing a role in scientific research and teaching services, providing a superior learning environment and book resources for college students, and providing strong support for improving their knowledge level and professional competence. This article provides an in-depth analysis and comprehensive exploration of the transformation and high-quality development of university library services, with the aim of sharing and exchanging ideas with relevant industry professionals.

**Keywords:** Higher education; Library; Service transformation; Development path

## 1. INTRODUCTION

As an important educational facility, university libraries not only create a good learning environment for college students, but also create favorable conditions for educational research work. Therefore, improving the service quality of university libraries is of great significance for the development of education. With the continuous acceleration of the development process of informatization and digitalization in society, Chinese university libraries have ushered in good opportunities for service transformation and development, which has laid a solid foundation for the construction of high-quality service libraries in universities. At present, although the service transformation of university libraries has increased its schedule, it is facing huge obstacles from various directions, which to some extent affects the service quality of university libraries. Based on this, university libraries need to clarify the direction of service transformation, and combine it with the actual operation of the library to open up a service transformation path that meets the requirements of modern higher education reform, in order to achieve the goal of improving the quality of university library services.

## 2. THE SIGNIFICANCE OF HIGH-QUALITY DEVELOPMENT IN THE TRANSFORMATION OF UNIVERSITY LIBRARY SERVICES

Revitalizing the country through science and education is a fundamental national policy in China. As one of the main battlefields for implementing this strategy, universities must have good development and adaptability. Libraries play an important role in higher education and should become the cornerstone of higher education reform and development. the transformation of library services is a necessary path to improve service quality, and naturally has great significance and value. Firstly, the transformation of university library services can provide high-quality teaching conditions for college students and teachers, which is beneficial for college students to acquire rich knowledge and for teachers to carry out teaching research work. For example, the library has expanded its service functions and scope, changing the original single service structure of borrowing books, and providing more detailed and comprehensive services for college students' learning. For example, building a service system that integrates leisure, relaxation,

communication, exploration, reading, and other functions to meet all the needs of college students as much as possible, thereby improving the service quality of university libraries. Secondly, the transformation of university library services is conducive to adapting to the trend of modern social development and attracting more college students to enter the library for self-improvement. For example, the digital transformation of library management mode relies on various modern information technologies to provide information services for college students, thereby improving the service efficiency of the library. Taking the book information query and borrowing service as an example, college students can quickly obtain detailed information about the book and its current borrowing status by directly entering the book name on the computer, saving a lot of manual search time.

## 3. THE REALISTIC DILEMMA OF HIGH-QUALITY DEVELOPMENT IN THE SERVICE TRANSFORMATION OF UNIVERSITY LIBRARIES

### 3.1 Serious lag in library information construction

Digital transformation is the foundation of the current service transformation of university libraries, and the key to improving the quality of library services. Based on the fact that digital transformation involves many elements, contents, and conditions, many university libraries have shown a serious lag in information construction, which has caused huge resistance to digital service transformation. For example, library service functions have not been organically integrated with information technology, and a large amount of service work still relies on manual completion, indicating the low level of informationization in library services. the main reasons for the above problems are as follows: Firstly, university administrators lack attention to the digital transformation of libraries, and are unable to provide policy support and assistance for library transformation, resulting in a lack of confidence in digital transformation in libraries. Secondly, funds and resources for library informatization construction are relatively scarce, and universities do not have enough funds to purchase information equipment. At the same time, university libraries lack management talents in information technology, which will slow down the process of digital service transformation in university libraries.

### 3.2 Low comprehensive quality of library management personnel

The service transformation of university libraries should not only focus on hardware facilities and management models, but also pay special attention to the abilities and qualities of management personnel. If management personnel do not have good service awareness and professional abilities, it will be difficult to build high-quality libraries through service transformation. At present, personnel engaged in the management of university libraries generally have a problem of low comprehensive quality, mainly manifested in the following aspects: Firstly, the service awareness of management personnel is poor. When providing services such as book borrowing for college students, they often exhibit behaviors such as being indifferent, impatient, and cold talking, which will reduce the evaluation of university libraries by college students. Secondly, management personnel lack professional knowledge and quality, such as insufficient mastery of library resources, and are unable to provide more precise and in-depth services for college students.

## 4. EFFECTIVE PATHS FOR THE TRANSFORMATION AND HIGH-QUALITY DEVELOPMENT OF UNIVERSITY LIBRARY SERVICES

### 4.1 Innovate service concepts and improve service quality

The transformation of service in university libraries should find the right starting point and breakthrough, in order to ensure the scientific and accurate nature of service transformation. As one of the foundations of service transformation, the service concept requires universities to implement correct and advanced service concepts in library management and development, and form a consensus on high-quality services from the leadership to the grassroots. For example, eliminating the traditional work concept of university library staff, who believe that

library management work is a leisure job and only needs to complete book borrowing work on time, has no service consciousness and must be completely eliminated in the service transformation of university libraries. At the same time, universities should regularly carry out ideological and political education work, convey advanced work ideas and scientific service concepts to library practitioners, in order to improve the quality of library services.

## 4.2 Innovative service methods to improve service efficiency

The impact of service methods on service quality and efficiency is very significant. In the context of informatization and intelligence, social production and living patterns have undergone tremendous changes. In the process of service transformation, university libraries need to adapt to the development of the times, innovate the original service methods, and improve the service efficiency of university libraries. Based on this, university libraries should regard information technology construction as the primary task of service transformation, rely on modern information technology to build efficient service platforms, and thus improve the service quality of university libraries. Firstly, universities should provide financial and resource support for the transformation of library services, allocate dedicated funds for purchasing information equipment, and invest in the construction of library information management systems. Secondly, building a high-quality library management service team

can promote talent selection measures in the recruitment process, screen personnel with professional information technology literacy, rich management experience, and good professional ethics to form a service team, laying a solid foundation for building high-quality university libraries.

## 5. CONCLUSION

In summary, the transformation and high-quality development of university library services can provide strong support for the cultivation of educational talents in universities, which is the basic line and requirement of China's university education reform. the previous text mainly proposed relatively reasonable transformation strategies for university library services from two directions: innovative service concepts and innovative service methods, hoping to be helpful in promoting the development of education in China.

## REFERENCE

[1] Li Chunxiang, Deng Ling, Yuan Huirong Analysis of the Research Situation of Information Literacy Education in University Libraries [J]. Journal of Literature and Data, 2023, 5(02):113-128.

[2] Xu Shujuan, Li Pishi, Jiang Min Long cycle precision reading promotion model and practice in university libraries [J]. Journal of Library Science, 2023, 45(06):69-72.

# Exploring the Content Construction and Value Leading Practice Path of New Media Platforms in Vocational Colleges from the Perspective of Integrated Media

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**Abstract:** In the development process of the education industry, new media platforms, as the main platform for cultural dissemination in vocational colleges, play an undeniable role. They can enrich the content and form of news dissemination while providing support for the daily teaching of vocational colleges. Therefore, staff must pay full attention to the construction of new media platforms. This article briefly introduces the value of building integrated media platforms and explores practical paths, hoping to provide ideas for the construction of new media platforms.

**Keywords:** Integrated media; Vocational colleges; New media platforms; Content; Value

## 1. INTRODUCTION

With the further deepening of quality education reform, the education industry has higher requirements for teaching models. Teachers in vocational colleges should innovate their teaching methods. Especially as one of the main tasks of vocational colleges, cultural propaganda can help vocational college students grasp current affairs and achieve better development. At present, the traditional media platforms used are no longer able to provide support for the smooth progress of related work. It is necessary to do a good job in the construction of new media platforms from the perspective of integrated media, and use new media platforms to subtly influence students, help them form a positive attitude towards life, and better cope with the challenges that will arise in future learning and life.

## 2. THE VALUE OF CONSTRUCTING NEW MEDIA PLATFORMS IN VOCATIONAL COLLEGES FROM THE PERSPECTIVE OF INTEGRATED MEDIA

The advantages of building new media platforms in vocational colleges from the perspective of integrated media are more prominent, which can strengthen the connection between new media and traditional media, and provide guarantees for the development of vocational college students. Therefore, vocational colleges must attach importance to the construction of new media platforms. Staff can summarize the value of building new platforms in vocational colleges from the perspective of integrated media into the following aspects:

### 2.1 Can help vocational college students obtain more practical opportunities

From the perspective of vocational colleges, encouraging students to join the construction of new media platforms can enhance their understanding of new media related knowledge and skills, and provide students with opportunities to carry out practical operations related to new media, ensuring the quality of education in vocational colleges.

### 2.2 Improving Campus Propaganda Effectiveness

When conducting promotional activities, we should increase efforts to build a new media platform, which can collect and summarize various resources, carry out targeted promotional work, and improve the quality of publicity. In this stage, it is also necessary to strengthen communication among various departments to ensure that news and

promotional resources can be shared in real time and maximize their effectiveness. In addition, by creating a new media platform, it can provide communication channels for departments such as campus broadcasting stations and computer information centers, thereby reflecting the value of different departments and ensuring that news information can be transmitted in a timely manner.

## 2.3 Provide support for the promotion of quality education

When carrying out teaching activities, using campus resources to improve the new media platform can effectively guide students. Vocational colleges can upload current affairs and hot topics on new media platforms to help students understand social development and enhance their ability to adapt to the times. According to relevant data investigation and analysis, it is found that with the help of new media platforms, cooperation among various departments of vocational colleges can be strengthened, and news content can be released according to the theme to promote the healthy growth of vocational college students.

## 3. MEASURES TO PROMOTE THE CONSTRUCTION OF NEW MEDIA PLATFORMS

In the context of integrated media, although vocational colleges have paid more attention to the construction of new media platforms and carried out some practice, there are still some problems in the actual process of new media platform construction, such as lagging management thinking, scarcity of available professional talents, low technical strength, and lack of support from perfect systems. This has led to a certain gap between the effectiveness and expectations of new media platform construction, making it difficult to demonstrate the maximum role of new media platforms, and from a certain perspective, it is not conducive to the development of vocational college students. In order to improve this situation, vocational colleges need to consider the causes of the problems and optimize the construction plan reasonably. When carrying out work, staff can start from the following points to implement the construction of new media platforms and

demonstrate the key role of new media platforms:

## 3.1 Updating Management Thinking

For management personnel, in order to fully reflect the role of the construction of new media platforms in vocational colleges, it is necessary for vocational colleges to actively analyze, clarify the reasons and roles of building new media platforms, and increase efforts to carry out construction work, optimize and improve the systems and mechanisms used in new media platforms, and provide a basis for propaganda work. In this stage, vocational colleges also need to dynamically control the progress of new media platform construction and enhance their management capabilities. In addition, vocational colleges also need to select targeted topics, enhance the positive guidance function of new media, and ensure that new media platforms can be recognized by college students.

## 3.2 Building a Talent Team with High Comprehensive Literacy

To implement the construction of new media platforms, it is necessary for vocational colleges to build talent teams with high comprehensive literacy and attract high-quality talents to participate in their work. Firstly, vocational colleges should do a good job in recruitment activities, hire talents with high comprehensive literacy to guide employees in their work, and ensure that all work can be carried out smoothly. Secondly, vocational colleges should consider the requirements of the news and communication team, carry out training activities, ensure that staff can fully understand the knowledge and skills related to new media, and strengthen the connection between new media and traditional media. In this process, it is also necessary to ensure that the staff can understand the operational norms of news promotion, editing, and publishing, ensure the level of daily publicity, and reduce the difficulty of building new media platforms.

## 3.3 Fully apply information technology

From a technical perspective, in order to improve the effectiveness of new media platform construction, vocational colleges need to strengthen the connection between various resources, choose technology and content in a targeted and reasonable manner,

and use traditional media to enhance their original ability and optimize the channels for news information dissemination. In this stage, vocational colleges also need to innovate news carriers to ensure that news dissemination work can be carried out through more diverse and diverse media. For example, applying modern technologies such as big data and cloud computing, clarifying the preferences of teachers and students, can provide more targeted information dissemination, enhance students' recognition of vocational colleges, and improve publicity effectiveness.

**3.4 Intensify efforts to carry out regulatory work**

Firstly, in building a new media platform for vocational colleges, in order to ensure the quality of the platform, vocational colleges need to increase their supervision and management efforts to ensure that all work is carried out in compliance with requirements, timely identify potential hazards that may arise during the platform construction process, and take appropriate measures. Secondly, vocational college managers should analyze whether there are any inappropriate aspects in their promotional work from the perspective of integrated media, and enhance their own promotional and management abilities. In addition, implementing regulatory work in practice can also enable propaganda workers to understand the key significance of their work, actively carry out practical operations, and improve work effectiveness.

## 4. CONCLUSION

In the context of integrated media, news promotion and cultural dissemination play a more prominent role in vocational colleges, which can have a subtle impact on students and enable them to achieve better development. Therefore, vocational colleges must increase their efforts to build new media platforms, and ensure the effectiveness of publicity work by strengthening the connection between new media and traditional media, regulating new media platforms, and improving talent training levels.

## REFERENCE

[1] Zhu Fengshun the problems and innovative paths in the implementation of "integrated media+education" in vocational colleges in the new era Hebei Vocational Education, 2022, 6(06):42-45.

[2] Li Hongxin, Xu Jie Research on the Construction of Network Ideological and Political Education System in Vocational Colleges from the Perspective of Integrated Media [J]. Heilongjiang Education (Theory and Practice), 2022, (06):13-16.

[3] Zhu Zedong the Construction Logic and Path of Integrated Media Propaganda Platform for Vocational Colleges under the Background of "Double Higher Education Institutions" Construction Comparative Study on Cultural Innovation, 2022, 6(06):67-71.

# Study on The Path of Ideological and Political Teaching Reform Under the Background of Vocational Education

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**Abstract:** Ideological and political construction is the innovation of ideological and political education carried out by universities under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. It is an important direction of the development of ideological and political education and the main channel of classroom teaching. This paper explores the necessity and entry point of the ideological and political teaching reform of the higher mathematics curriculum and gives the optimization strategy of the higher mathematics teaching reform in the vocational education.

**Keywords:** Vocational Education; Curriculum and Politics; Advanced Mathematics

## 1. INTRODUCTION

In December 2016, General Secretary Xi Jinping stressed at the National Conference on Ideological and Political Work in Colleges and Universities, " We should make good use of the main channel of classroom teaching.. We should keep a good channel and plant responsible fields, so that all kinds of courses and ideological and political theory courses go in the same direction and form a synergistic effect. [1] "Course is an important carrier of the construction of" course ideological ", curriculum ideological reform as the breakthrough to break the barriers of ideological education and professional course education, both to follow the subject characteristics of course to the top-level design, also want to fall fine for mathematics education and ideological education into point and combining site, ideological elements and subject knowledge precision embedded in ideological teaching content of [2]. And higher mathematics as institutions of higher learning science and engineering major students required a basic theory course, is carrying the training students' quality education, innovation spirit and innovation ability of the Times, teachers need to "course education" effectively into the course teaching process, guide students to set up the correct world outlook, the outlook on life and values, in the higher mathematics course teaching "promote ideological and political education affinity and pertinence, meet the demand of students grow development and look forward to".

## 2. EXPLORING THE NECESSITY OF IDEOLOGICAL AND POLITICAL TEACHING REFORM OF HIGHER MATHEMATICS CURRICULUM IN VOCATIONAL EDUCATION

Higher mathematics is a public basic course offered by colleges and universities for students majoring in science and engineering. In vocational education, different colleges and universities have set up different credit hours according to different majors. Taking Zibo Vocational College as an example, higher mathematics courses are A, B and C according to the number of hours (64, 96 and 128 hours). Most majors choose to choose advanced Mathematics (A) or (B). the higher mathematics (A) \ (B) mainly study each major must be basic mathematical literacy knowledge module (one yuan function calculus, ordinary differential equation) (A \ B), improve knowledge module (infinite series, binary function calculus, linear algebra preliminary, probability theory and mathematical statistics) (B) part of the content, teaching according to different professional selection of different modules to suit the

students' diverse needs. Higher mathematics is the basic course of mathematical quality required for cultivating high-level talents, It is also to implement the guiding principles of the 19th CPC National Congress and Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Implement the spirit of the National College Ideological and Political Work Conference, Adhere to the socialist direction of running schools, To implement the fundamental task of cultivating people by virtue, In accordance with the overall requirements of value guidance, ability achievement and knowledge transmission, Deepening the curriculum reform of the college, It is an important position for educating all staff, whole-process and all-round education, and cultivating socialist builders and successors with all-round development of morality, intelligence, physique, beauty and labor, Regardless of the cultivation of students' comprehensive quality, Or the study of subsequent courses and cultivate students' employment competitiveness and development potential, Are of great significance. Therefore, the ideological and political teaching reform of higher mathematics curriculum in vocational education is very necessary.

## 3. ENTRY POINT OF IDEOLOGICAL AND POLITICAL TEACHING REFORM IN VOCATIONAL EDUCATION

### 3.1 Read math celebrity stories, firm cultural confidence

There are several famous mathematician in Chinese history, the ancient zu chong for the first time to "PI" actuarial to decimal seventh, liu proposed seeks square cover/difference/cut circle, qin jiushao invention "qin jiushao algorithm", Zhao Shuang by the circle of note is the earliest proof of the theorem of Pythagorean hua Luogeng, the father of modern mathematics, the father of differential geometry, Chinese differential geometry founder Su Buqing, the first field prize Chinese winner Qiu Chengtong, the world's first conquer "goldbach conjecture" Chinese mathematician Chen Jingrun. From these celebrity stories, students can realize the craftsman spirit of mathematicians in pursuing excellence and the enterprising spirit of exploring despite difficulties, arouse students'

strong patriotism and enhance their cultural confidence.

### 3.2 Deep analysis of teaching materials, build mathematical political literacy

Mathematics contains profound philosophical thoughts, combined with dialectical materialism to conduct higher mathematics teaching, can not only dig out the essence of mathematics, make students better understand mathematical knowledge, but also make students understand the principles of Marxist philosophy through specific problems, cultivate students' thinking ability, form a methodology to guide practice [3]. For example, from the "limit of segmentation, approximate, sum and limit" of fixed integral, the philosophical thoughts of "integrating zero into zero" and "quantitative change accumulation into qualitative change" can be extracted. For example, the "direct instead of bent" contains the materialist dialectical view of the unity of opposites, and reveals the two opposing contradictions of "straight" and "bent" to students, but they can also be transformed into [3].

## 4. OPTIMIZATION STRATEGY OF HIGHER MATHEMATICS TEACHING REFORM IN VOCATIONAL EDUCATION

### 4.1 Clear teaching objectives, to promote the development of students

The ideological teaching of advanced mathematics course should take the humanities theme and learning task as the core, including ideal belief and national responsibility, which is not only the embodiment of national feelings and national spirit quality, but also the humanistic function of mathematics. the learning task should combine mathematics knowledge with practice to enable students to find the value of mathematics [4] in practice. In the reform of ideological and political teaching of higher mathematics curriculum in vocational education, we should strengthen the connection between high number and life and other disciplines, weaken the complicated calculation process, pay attention to helping students to construct students 'thinking logic, improve students' thirst for knowledge, change from completing teaching tasks to cultivating students 'mathematical literacy,

and promote students' comprehensive development.

**4.2 Optimize teaching methods and highlight ideological and political elements**

In the context of the digital transformation of vocational education, the online and offline hybrid teaching has become the norm, which also provides an intelligent information platform for the ideological and political reform of higher mathematics courses. Teachers can enrich course resources and course forms online, and spread excellent courses to students with the help of platforms such as MOOC of Chinese universities. the ideological and political education content of higher mathematics courses is presented in flexible and diverse forms, and the students' ability of independent construction and self-education can be improved.

## 4. CONCLUSION

Under the background of vocational education, the ideological and political reform of higher mathematics curriculum should be student-centered, output-oriented and continuously improved. It deeply integrates information technology and education teaching, constantly updates teaching concepts, reforms teaching methods and innovates teaching modes, and promotes the ideological and political reform of curriculum.

## REFERENCES

[1] At the National Conference on Ideological and Political Work in Colleges and Universities, Xi Jinping stressed that the ideological and political work runs through the whole process of education and teaching to create a new situation for the development of higher education in China [N]. People's Daily, 2016-12-09.

[2] Feng Mei, Cao Hui, Li Xiaohui. Preliminary research on ideological and political education teaching with ideological and political cases as the carrier [J]. Higher Education in China, 2020 (Z3):37-39.

[3] He Sha, Feng Ying, and Liang Tao. Study on the case design of ideological and political teaching in Higher Mathematics Curriculum [J]. Advanced Mathematics Research, 2024, 27(01):95-98.

[4] Sun Weizhong. Reform of higher mathematics teaching under the perspective of curriculum ideology and politics [J]. Shaanxi Education (Higher Education), 2024(02):19-21. DOI: 10.16773/ j. cnki. 1002-2058.2024.02.014.

# Research on The Construction Of "Building Construction Technology" In Higher Vocational Colleges Under the Separation of Teaching and Examination

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**Abstract:** The separation of teaching and examination mode has broken the comfort zone of the teachers, and the teaching and research team of "Building Construction Technology" jointly discussed and created a high-quality question bank. Examination of difficult, medium and easy questions are randomly selected according to the proportion to ensure the fairness of the examination. Under the separation of teaching and examination, the atmosphere of emphasizing teaching and learning is strong, the students' examination scores are well differentiated, and the examination role is outstanding.
**Keywords:** Separation of teaching and examination; Question bank; Construction

## 1. INTRODUCTION

Construction technology is a core course of vocational ability in higher vocational construction engineering technology major, which mainly includes the construction technology of basic engineering, main engineering and decoration engineering. the teaching objectives are: master the construction method, construction points and process flowto; prepare construction drawings; have the ability to organize construction and project quality acceptance; analyze and solve construction technical problems in construction; and have good professional ethics, safety and quality awareness, craftsman spirit, professionalism, hard-working, solidarity and meticulous working attitude.

This course has a large amount of class hours, a wide range of teaching content, and a high difficulty in learning. the traditional course assessment has always adopted the way of teaching test, that is, the test paper is generally prepared by the teacher before the exam, the course assessment method in the implementation process has many disadvantages, such as proposition teacher according to the proposition, for the test form, test type, standard, accuracy, distribution of the difficulty, easy to be difficult or easy, the test result is difficult to reflect the students learning, it is difficult to fair and objective evaluation of teachers' teaching effect; Teachers need to consume a lot of repetitive work, increase the burden of teachers and so on [1]. In order to promote the improvement of teachers 'teaching quality and enhance students' learning motivation, the construction technology curriculum urgently needs teaching reform, and the separation of teaching and examination is an effective teaching reform measure.

## 2. THE NECESSITY OF SEPARATION OF CONSTRUCTION TECHNOLOGY

### 2.1 Ensure the fairness of the examination

In the traditional examination form of teaching and examination of construction technology course, there are phenomena such as subjective subjectivity of proposition, which is easy to make students have lucky psychology such as cramming, which makes the examination a mere formality [2]. In order to ensure the passage rate of students, some teachers are extremely simple, can not judge the quality of students' learning. the implementation of the separation of teaching and examination, the teacher can not be published alone, the test questions are difficult

to set up at different levels, to dispel the students' fluke psychology. Students who want to get good grades must work hard in peacetime, and it is not easy to achieve the assault before the exam. the implementation of the separation of teaching and examination provides a guarantee for the accurate evaluation of students' learning effect and ensures the fairness of the examination.

## 2.2 Improve the teaching quality of teachers

The teaching test is a time, the teacher can not update the lesson preparation content all the year round, and the students can pass the exam. the separation mode of teaching and examination breaks the comfort zone of the teachers, because the question bank is not built by the teachers themselves, and the question bank has a large number of questions and involves a wide range of questions. If the students want to pass the exam successfully, the teachers must expand the scope of knowledge and constantly prepare lessons, so as to improve the teaching quality of the teachers.

## 3. SIGNIFICANCE OF BUILDING CONSTRUCTION TECHNOLOGY QUESTION BANK CONSTRUCTION

### 3.1 The key to the reform of teaching and examination

The construction of the construction technology question bank directly determines the effectiveness of the reform of separating teaching and examination. the higher the quality of the question bank construction, the better the effect of the separation of teaching and examination reform. If the number of questions in the question bank is too small, the question type is single, and the test site can not cover the curriculum standard requirements, then even if the policy of separation of teaching and examination is implemented, it can not test students' learning results well. the question bank must follow the teaching objectives of the curriculum standard, set up a variety of questions, and build according to the difficult, medium and easy classification. the construction of the question bank needs the participation of all the teachers in the research group, and it needs to be expanded and updated from time to time, and constantly improve the quality of the question bank, so as

to better implement the separation of teaching and examination.

### 3.2 Examination standardization

The construction of the question bank gathers the wisdom of several teachers, and uses the online platform to randomly select questions from the question bank to form the test paper according to the requirements of the test site. the final examination paper is comprehensive, difficult and easy, and the standard level is improved.

## 4. EFFECTIVE APPLICATION EFFECT OF CONSTRUCTION TECHNOLOGY QUESTION BANK CONSTRUCTION

### 4.1 Construction ideas of the question bank

The members of the research group discussed the assessment requirements of the course standard knowledge points, and determined that the questions were mainly single choice questions, multiple choice questions, judgment questions and case analysis questions. Each knowledge point is set at 10 times, the number of multiple choice questions is equal to the judgment questions, the number of single choice questions is about 8 times the number of multiple choice questions. the task is assigned to each teacher according to the knowledge points. the teacher starts to prepare the question bank from the beginning of the semester, and has built a considerable number of questions before the final exam. the quality of the question mainly refers to the standard of the registered construction engineer exam, the simple questions mainly examine the memory of the knowledge points, the difficult questions mainly examine the application of the knowledge points, and the proportion of the simple, medium and difficult questions is controlled at 3:2:1.

### 4.2 Application effect analysis of the question bank

The separation of teaching and examination strategy of the implementation of the construction technology course involves 447 students. Only 12 people failed, or 2.7 percent. the average score is more than 73.5, among which the average score of Construction Engineering Management Class 1 is as high as 82.1, and the highest score of all classes is 97, which is also the highest score in the final examination of construction technology in the past years.

## 5. ANALYSIS OF THE SEPARATION OF TEACHING AND EXAMINATION:

### 5.1 The question takes a long time, and the topic is carefully reviewed

At the beginning of the semester, the team members of the "construction and construction technology" teaching and research group began to discuss the questions set in the final exam. After discussion, they determined the scope of setting the questions, unified the idea of setting the questions, and standardized the final review requirements. Team members spent about a semester organizing the question bank of about 1, 000 questions, and the repetition rate was controlled within the range of 1%. This is the longest time for the final exam in the past years, but also the most rigorous examination of the questions, the most fully prepared, teachers teach with ease, can well grasp the key points, improve students' learning efficiency.

### 5.2 Teachers are serious and responsible

Before the beginning of the semester, the team members organized a discussion on the new semester course, mainly discussing how the course can be more attractive to learning, and students can be passive and active in learning. At the meeting, everyone shared the latest technology and interpretation of construction specifications, to make full preparation for the course.

After the beginning of the semester, several course discussions, after each discussion, the teaching work will have new harvest, the teaching effect has been significantly improved, which is an important factor in the high exam results.

### 5.3 The teaching method of combining virtual and reality is adopted

"Construction Technology" belongs to the core course of the class. the course is characterized by many standard requirements, and some contents are difficult to understand, but it is of great significance for guiding students' future construction operations. the teaching process adopts the combination of virtual and real, standard first, simulation animation to help understand the construction process, and the site practical operation to deepen the process understanding.

The separation of teaching and examination greatly encourages the teachers to consciously and actively organize lesson preparation and teaching activities in accordance with the curriculum standards, teaching progress and teaching syllabus [3]. For students, the initiative and enthusiasm in learning have been greatly improved, their knowledge has become richer, and their ability to solve problems has been significantly improved. the implementation of the separation of teaching and examination can promote teachers to update the teaching content in time, can promote students to establish a correct learning attitude, so as to form an atmosphere of emphasizing teaching and learning, and constantly improve teachers 'teaching level and students' learning effect, so that the examination plays its own role.

## REFERENCES

[1] Yin and Wu. Research on the innovation of University Education Management based on the separation of Education and examination [J]. Adult Education in China, 2017, (24):49-51.

[2] Zheng Zhi, Guo Jian, Chu Xiaoqin, Wang Qian, Chen Juan, Peng Can, Gui Shuangying, He Ning. Exploration and practice of the construction of standardized pharmacy course under the perspective of teaching and examination [J]. Guangdong Chemical Industry, 2023(15):215-218.

[3] Cao Xiaofei, Wang ocai, Yu Bolin. the necessity of implementing the separation mode of teaching and examination in mathematics courses [J]. Education and teaching forum. 2021(43):136-139.

ACADEMIC PUBLISHING HOUSE

# An Analysis of the Value of Shared Development in the Reform of Income Distribution System

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**Abstract:** The concept of shared development is closely related to the reform of the income distribution system. On the one hand, the concept of shared development provides theoretical guidance for the reform of the income distribution system. Although China's economic development level has improved, it is still a middle-income country and still in the primary stage of socialism. Continuing to deepen reforms and promote economic growth is still of utmost importance. Therefore, it is necessary to ensure development, To narrow the income gap, we need to be guided by the concept of shared development. On the other hand, the reform of the income distribution system is an important part of shared development and also an important measure to achieve shared development.

**Keywords:** Shared Development Concept; Income Distribution System; People

## 1. INTRODUCTION

The development concept is a guiding principle for overall, fundamental, directional, and long-term actions, while the concept of shared development is an important guide for the reform of the income distribution system. Shared development undoubtedly plays an important guiding role in the reform of the income distribution system. the concept of shared development plays a guiding role in the reform of the income distribution system, and the reform of the income distribution system should first start from the ideological level.

## 2. ADHERE TO THE PEOPLE-CENTERED DEVELOPMENT CONCEPT

The practical activities of human society are objective entities, but they do not exist spontaneously, but are driven by the people. In the perspective of Marxist classic writers, the people are not only the creators of history, but also the decision-makers of social change.

The people are the main body of shared development, the main force driving reform, and the main body and beneficiaries of building a moderately prosperous society in all respects. the goal of building a moderately prosperous society in all respects is to ensure that the fruits of development benefit all the people and achieve common prosperity for all. the essential requirement of socialism with Chinese characteristics is to achieve common prosperity, and the main force for adhering to and developing socialism with Chinese characteristics is the broad masses of the people. Therefore, as the fundamental principle of socialism with Chinese characteristics, common prosperity ultimately means achieving the sharing of achievements by the people, and taking the will and interests of the broad masses of the people as the starting point and foothold of all work. We must adhere to the development philosophy of putting people first.

## 3. ESTABLISHING THE CONCEPT OF SHARED DEVELOPMENT AMONG THE WHOLE POPULATION

A development concept reflects a spirit of the times, practical rationality, and value orientation. It guides the development trend of a country or nation and has a significant and far-reaching impact on social development the concept of shared development reflects the value orientation of contemporary society and also reflects the status of sharing in current development work. Compared with the concept of shared development, previous development concepts inevitably focused more on measurable development speed and

measurable development outcomes. the concept of shared development points out the subject, content, driving force, and process of sharing, which can make the results of development as beneficial as possible to everyone, and enable these people to achieve tangible development, making development full of warmth. Establishing the concept of shared development requires joint efforts from society.

Establishing the concept of shared development, as far as the government is concerned, is to establish the idea of "considering the interests of the people as the starting point and foothold of all things", and to establish the bottom line thinking of "no one can be omitted", ensuring that everyone shares. In terms of society, it is to promote social fairness and justice, provide a stable environment and friendly atmosphere for shared development, and form a shared view of people enjoying development together with nature and people in the whole society, providing a guideline for development; On an individual level, it is about enhancing the awareness of sharing, caring for the development of others while achieving personal development, and providing assistance to the best of one's ability for the development of others. "Development first leads development later, and we strive for development together. " It is about human development while paying attention to the development of other organisms and maintaining a harmonious symbiotic relationship with nature.

## 4. ENHANCE CITIZENS' AWARENESS OF CO CONSTRUCTION

Shared development is the cause of all members of society. the true driving force of development lies in the people. From practice to understanding and then to value, the subject is the people, and development at any time cannot be separated from the people. Thought is the precursor of action, and in order to further develop shared practice, it is necessary to enhance the awareness of co construction among citizens. It is essential to enhance

citizens' awareness of co construction and strengthen research on the theory of shared development. Due to the short period of time when the concept of shared development was proposed, people's understanding of it is not comprehensive enough. This requires scholars to participate in the research of the concept of shared development and clarify the relationship between shared development concepts. Encourage interdisciplinary exchanges and improve the system construction of shared development theory. Scholars studying the concept of shared development should combine with the characteristics of the times, create more prosperous ideological works, provide rich and colorful ideological materials for the people, so that the people are subtly influenced in the learning process and improve their awareness of co construction. Enhancing citizens' awareness of co construction also requires leveraging the roles of traditional and new media. To enhance citizens' awareness of co construction, it is necessary to place the people in an atmosphere of co construction, which requires good publicity work. We should fully utilize tools such as banners, newspapers, television networks, and especially new media to vigorously promote the concept of co construction and present it in all aspects of human life. Gradually gain the recognition of the people for co construction, encourage them to consciously participate in co construction, and lay a solid foundation for sharing.

## REFERENCES

[1] Selected Works of Marx and Engels (Volume 4) [M]. Beijing: People's Publishing House, 2012.
[2] Capital (Volume 1) [M]. Beijing: People's Publishing House, 2004.
[3] Zhou Xincheng. On the Socialist Economic System with Chinese Characteristics [M]. Beijing: China Economic Publishing House, 2008.

# A Survey and Analysis of The Psychological Health Status of New Students in Vocational Colleges

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**Abstract:** Vocational college students often face more psychological distress and become one of the important groups in need of psychological intervention. A survey was conducted on the mental health status of 2021 students in a vocational college using the College Student Mental Health Inventory (UPI) and Symptom Checklist-90 (SCL-90). Through actual testing, it was found that college freshmen have varying degrees of psychological problems or obstacles. Therefore, vocational colleges should strengthen psychological health education and counseling for students.

**Keywords:** Vocational Colleges; New Students; Psychological Health; Investigation; Proposal

## 1. INTRODUCTION

Higher vocational education is an important component of higher education. Vocational college students are in the process of transitioning from late adolescence to adulthood and often face more psychological distress, becoming one of the important groups in need of psychological intervention. Therefore, investigating the mental health status of college freshmen and establishing student psychological records has become an important component of mental health education in universities. By conducting surveys and filing, we can comprehensively understand the mental health status of new students, identify existing problems early, and provide targeted assistance and guidance for them to enter university learning and life in a good mental state. At the same time, this can lay a foundation for future psychological health education, counseling, and intervention.

## 2. PSYCHOLOGICAL SURVEY

### 2.1 Purpose of the census

To help the freshmen of a certain college in 2021 better adapt to college life and comprehensively understand their mental health status; Provide timely assistance and necessary intervention to students with psychological problems and disorders; Further strengthen and improve mental health education, cultivate high quality students with development potential; Provide targeted suggestions and ideas.

### 2.2 Basic information

2.2.1The time, location, and number of people conducting the census

On November 1, 2021, the Psychological Health Center of a certain school formulated the "Implementation Plan for the 2021 Freshman Psychological Census of a certain college", and provided special training to the heads of psychological counseling stations in various departments (colleges) and student cadres of the Psychological Health Department of the Student Union. Starting from November 13, 2021, according to the census plan, as of November 29, 2021, there were 7770 students to be tested and 7469 students were tested, with a survey rate of 96.13%.

2.2.2Census methods

This psychological survey used psychological assessment tools - Beijing Ruige Psychological Education Information Management System V3.0 University Edition, and the testing scales used were the College Student Personality Health Survey (UPI) and Symptom Checklist-90 (SCL-90).

2.2.3Census results

It was found that 15.05% of college freshmen have varying degrees of psychological problems or obstacles in actual testing. the most noteworthy is that the number of students

who answered the question of having suicidal thoughts reached 156, accounting for 2.09% of the total number. the mental health status of most students is good, but the detection rate of students with psychological problems is still relatively high, which needs to be taken seriously and actively intervened.

The analysis of the ratio of various psychological problems among freshmen found that the most common problems among freshmen were: feeling uneasy without repeatedly confirming anything (39.66%); Overly worried about one's future (37.28%); Pay attention to the people around you (35.78%); Lack of concentration in thought (35.57%). These findings suggest that new students may have difficulties with obsessive-compulsive tendencies, lack of self-confidence, communication problems, and neurotic tendencies. the classification analysis of the top 30 choice ratios (excluding false test questions) and several key focus questions found that the main problems among students are neurasthenia tendency, lack of self-confidence, obsessive-compulsive tendency, emotional instability, interpersonal communication, and other aspects.

The analysis of the impact of gender factors on the mental health status of freshmen reveals that there is a significant difference between males and females in the total score, with $F=40.167$ ($p<0.000$). the mental health status of males is better than that of females.

## 3. ANALYSIS OF THE MAIN PROBLEMS AND CAUSES OF STUDENTS' MENTAL HEALTH

### 3.1 The main psychological health issues of students

Based on the results of the psychological survey and interviews with students, the current main mental health status of students in the hospital is not optimistic. the main problems that students face include:

3.1.1 Interpersonal relationship problems: mainly manifested as interpersonal sensitivity, reluctance to socialize, unwillingness to socialize, and inability to socialize.

3.1.2 Emotional problems: mainly manifested in anxiety, impulsiveness, depression, indifference, compulsion, and other aspects of distress, these emotions may lead to a decrease in students' learning efficiency.

3.1.3 Self awareness confusion: mainly manifested as two extremes, one is that some students lack confidence, and the other is that some students are self-centered.

3.1.4 Career development confusion: mainly manifested as a lack of learning goals and confusion about the future; I have no idea about my future career development.

3.1.5 Psychological distress in love and sex: mainly manifested as emotional confusion among college students, and some college students have incorrect views on love, which in turn leads to psychological burden and confusion in love and sex.

### 3.2 cause Analysis

3.2.1 Due to various reasons, students entering vocational colleges may have a gap between their ideals and reality in their aspirations for university, and emotional regulation may take some time.

3.2.2 The living environment has changed, and the way classmates interact has also changed compared to high school. Therefore, it takes some time to adapt to the new environment and adapt to new classmates, and there is inevitably a stage of psychological adaptation and adjustment.

3.2.3 Different parenting styles may be the underlying cause of students' mental health problems.

3.2.4 The increasing social pressure and intensified job competition have led to more students being confused and worried about the future.

## 4. DISCUSSION AND COUNTERMEASURES

Based on the mental health status of vocational college students and the tasks faced by vocational college mental health education, it is possible to strengthen and improve the mental health education work in vocational colleges from the following aspects.

First, in the work of enrollment education for new students, through the organization of mental health survey, we have a comprehensive understanding of the mental health status and personality characteristics of new students. On this basis, we can find out the students who have psychological problems and may have psychological problems, give key psychological guidance, and gradually

improve and perfect the students' psychological files.

Secondly, offering compulsory courses on mental health for college students, quickly popularizing knowledge of mental health, helping students to view psychological problems correctly, master correct psychological adjustment methods, eliminate psychological hazards, and improve their mental health level.

Thirdly, strengthen the construction of elective courses for mental health education, so that more students can systematically master mental health knowledge and use it to guide their lives and studies, continuously improving and enhancing themselves.

Fourthly, establish a sound multi-level communication and coordination system, improve the mental health education system for students, and provide more comprehensive guidance for them. We need to strengthen the all-round interaction among colleges, departments, and classes, and form an effective network for mental health education.

Fifth, strengthen student team building, organize various beneficial physical and mental activities, and enhance students' psychological adjustment ability. the College Student Psychological Association and the Student Union's Department of Mental Health can organize diverse mental health education activities for students, strengthen communication and mutual assistance among peers, and leverage the positive role of student teams in mental health education.

Sixth, attach importance to campus cultural construction and cultivate students' healthy psychological qualities. Timely strengthen the education of students' ideals, beliefs, outlook on life, and values, so that their goals are clear and they can immerse themselves in a rich and colorful university life with both physical and mental pleasure.

In short, the mental health education work in vocational colleges still has a long way to go and requires continuous exploration and exploration by mental health educators.

**REFERENCE**

[1] Li Xiaobo, Xie Gang, Shen Xuemei, et al. A survey on the mental health status of college freshmen and educational strategies [J]. Journal of Jiangsu University (Higher Education Research Edition), 2005, 27(2):74-76.

[2] Liu Bing, et al. A study on the psychological health status and intervention measures of 2004 freshmen in a certain university [J]. International Journal of Medicine and Health, 2005, 11(14):4-5.

[3] Zhang Hongjie, Liu Fengge, et al. Investigation and analysis of the mental health status of college freshmen [J]. Journal of Health Psychology, 1998, (1).

# Exploration of Employment oriented Innovation in Ideological and Political Education in Higher Vocational Education

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**Abstract:** In recent years, many vocational colleges have frequently involved career planning in ideological and political education in order to increase employment rates, and have created modern vocational ideological and political education classrooms guided by employment in daily teaching. This innovative teaching model has greatly strengthened the employment awareness of college students, which can timely improve their negative employment concepts, alleviate their employment pressure, and continuously inject learning motivation into them. Therefore, this article analyzes and explores the innovation of employment oriented ideological and political education in higher vocational education, hoping to provide relevant basis and reference for peers.
**Keywords:** Employment Oriented; Vocational Education; Ideological And Political Education; Innovate

## 1. INTRODUCTION

As an important body of vocational education, vocational colleges focus on cultivating skilled and comprehensive professional talents. As the main battlefield for talent cultivation, it shoulders the significant responsibility of education, with the aim of delivering many outstanding talents to society and vigorously promoting market development. the employment rate of students can directly reflect the teaching level and talent cultivation effect of vocational colleges, attracting high attention from society. With the vigorous promotion of the new era, how to improve the employment competitiveness of talents and attract the attention of vocational colleges is also the best way to help oneself escape from the fierce environment. For this reason, many vocational colleges take ideological and political education as the main body, employment oriented, combined with current social public opinion and hot topics, formulate comprehensive teaching strategies, timely make up for the shortcomings in traditional teaching, and provide great guarantee for the smooth employment of students.

## 2. CULTIVATE STUDENTS' COMPREHENSIVE ABILITIES

With the vigorous promotion of the education industry and the continuous reform of education and teaching, the ideological and political courses in vocational colleges have also been affected to a certain extent, attracting high attention from teachers. Due to the fact that traditional ideological and political courses are theoretical public courses, teachers only need to constantly explain according to textbooks. However, modern education has completely broken through the limitations of traditional education models, adjusted teaching directions and optimized teaching models according to the current development situation of the times. Therefore, curriculum reform is an inevitable trend, providing great guidance for the career planning and employment of college students, effectively stimulating their learning interests, and greatly enhancing teaching effectiveness. Specifically, ideological and political education in vocational colleges always focuses on market development and employment direction, and conducts analysis and research based on these two aspects. With an understanding of employment orientation, the teaching mode is appropriately adjusted, no longer relying on students to impart basic theoretical knowledge, but considering the current learning situation, focusing on

vigorously cultivating their thinking ability, language ability, and interpersonal communication skills, Under long-term practical education, the professional abilities of college students gradually enhance, and their practical level will also be improved. And this direction will also be clearer and more clear, vigorously collecting life elements, enriching teaching content, and mobilizing student enthusiasm. For example, the learning direction of vocational college students majoring in accounting is mainly focused on accounting, with skills such as budgeting and information organization. Therefore, when teaching ideological and political courses, teachers take accounting as the starting point, and from a life perspective, explain practical cases such as household income and expenses to students, encouraging them to participate in learning activities and focusing on cultivating their problem-solving abilities, Utilize divergent thinking. the ideological and political course itself is mainly based on theory, and it has been exposed to many teaching fields. Moreover, these contents bring great disadvantages to the cultivation of students' professional abilities. Therefore, when students collect and integrate the content of the textbook, they are required to focus on the employment orientation of college students, deeply reflect and analyze problems, learn to use the correct perspective to rationally view, purposefully shape the correct humanistic literacy, optimize and innovate teaching methods, Stimulate students' initiative, allowing them to participate independently in ideological and political teaching activities, learn many professional skills from it, and improve their professional level.

## 3. CULTIVATE CORRECT EMPLOYMENT VIEWS AND HEALTHY PSYCHOLOGY

When officially carrying out the teaching of ideological and political courses in vocational colleges, teachers highlight the subject status of students, take college students as the main body, encourage students to actively participate in teaching activities, cultivate their correct employment views, and attach importance to mental health education to prevent psychological problems. Only after college students have the correct employment outlook and healthy psychology can they fully devote themselves to daily learning, face multiple problems such as life and work, and the teaching mode of ideological and political education is also changing, effectively resolving internal conflicts. the ideological and political education courses in vocational colleges mainly focus on the education work carried out according to the national conditions, taking the comprehensive development trend of the market economy as the foundation, closely linking the content learned in the textbooks with the development status of different industries in the new era, and emphasizing the implementation of employment education for students and the transformation of employment concepts. A good employment concept has emerged to adapt to the development of the new era, and as modern builders of the country, college students must maintain a unified development direction with social interests. Under the guidance of high-quality education, they should prioritize choosing employment positions that are suitable for themselves, truly exert their advantages in society, and stand in the fierce market. At present, the fierce market competitiveness is expanding day by day, and the noble moral qualities of vocational college students are the shining point that attracts enterprises and also the advantage of improving their competitiveness. Therefore, vocational colleges must provide ideological and political education to college students, with employment as the guide, establish a good employment concept under correct guidance, enhance employment awareness, face various competitive pressures directly, learn to solve problems with a positive attitude, gradually eliminate negative emotions, and form a healthy psychology. College students are in a critical period of development in their values, outlook on life, and worldview. When officially carrying out ideological and political education in vocational colleges, they always adhere to the principles of fairness and impartiality in teaching, allowing students to play an independent and participatory role, effectively changing their ideological concepts, and gradually developing correct values.

## 4. ENRICH TEXTBOOK CONTENT AND HIGHLIGHT EMPLOYMENT ORIENTATION

The teaching content is an important support point for the smooth progress of ideological and political education activities in higher vocational education, and it is also the basic guarantee for any teaching activity. It directly affects the knowledge mastery level of students and has an inevitable connection with their future development. the education models of higher education institutions and vocational colleges are different, and there are significant differences in teaching orientation, resulting in significant differences in the effectiveness of student ability development. Simply put, higher education institutions attach great importance to the cultivation of fair abilities and help students lay a solid foundation, while vocational colleges take employment as their ultimate goal, face key issues directly, and highlight employment orientation. Therefore, in the process of ideological teaching in higher vocational education, it is required that the textbooks should be appropriately enriched and optimized from a practical perspective to attract the attention of students. At the same time, it is also necessary to take "profession" as the core of education, inject a lot of professional knowledge, expand students' horizons, and enhance the effectiveness of education.

## 5. CONCLUSION

As explained in the previous text, in the new era, vocational colleges serve as the main battlefield for cultivating skilled talents. In order to continuously improve employment rates, they advocate for the infiltration of employment concepts into ideological and political education in vocational colleges. With employment as the guide, they stimulate students' interest in learning through practical cases and hot topics, while connecting with reality, strengthening the cultivation of students' employment ability and enthusiasm, and adopting scientific and reasonable teaching techniques, Emphasis is placed on strengthening students' employment awareness, helping them establish a correct employment outlook, and providing guarantees for smooth employment in the future. In addition, in vocational ideological and political education, a strictly employment oriented teaching philosophy greatly enhances the effectiveness of vocational ideological and political education, injecting momentum into cultivating more outstanding talents.

## REFERENCE

[1] Xu Zhen An Analysis of Innovative Strategies for Employment oriented Vocational English Teaching [J]. Happy Reading, 2021, (20):28-29.
[2] Autumn moon, giant fresh Ting Exploring the Innovation of Ideological and Political Education in Employment oriented Curriculum in Higher Vocational Nursing Majors [J]. International Public Relations, 2020, (12):204-205.
[3] Guo Hongmei Exploration of Innovative Strategies for Employment oriented Ideological and Political Education in Higher Vocational Education in the New Economic Era [J]. Modern Marketing (Information Edition), 2020, (03):88-89.

# Analysis of the Application of Advanced Mathematics in the Field of Economics

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**Abstract:** Advanced mathematics, as a course of professional education in universities, belongs to the discipline of science and engineering education. the economic field belongs to the ranks of science and engineering professional education and plays an indispensable role in it. There is an inevitable correlation between higher mathematics and the field of economics, especially when the problems and solutions are very similar, which can to some extent promote the internalization of knowledge between the two and demonstrate value in their respective fields. Therefore, this article analyzes and studies the application of advanced mathematics in the field of economics for reference.

**Keywords:** Advanced Mathematics; Economic Sector; Apply

## 1. INTRODUCTION

In the new era, the vigorous reform of the education industry places great emphasis on investment in higher education. As a discipline of science and engineering education in universities, higher mathematics teachers follow the principle of individualized teaching for the convenience of students to understand and master. They are brave enough to innovate teaching methods, completely break away from traditional teaching concepts, and enable students to utilize knowledge related to higher mathematics to play a role in the economic field, highlighting its knowledge value. Nevertheless, the current number of economic problems is gradually increasing, and the application frequency of advanced mathematics in the economic field is increasing, which is conducive to simplifying economic problems and promoting the efficiency of solving economic problems. Therefore, it can clearly demonstrate the application status of advanced mathematics in the field of economics, highlighting its importance.

## 2. APPLICATION OF ECONOMIC MANAGEMENT

With the increasing comprehensive economic level in our country, investment in higher mathematics education is a key focus. In the new era, due to China's gradual involvement in the international market economy, the application scope of higher mathematics is gradually expanding, and even achieving application effects in multiple fields. the development and progress of economics must rely on advanced mathematics, and through its long-term development and transformation, many basic concepts of economics have also undergone significant changes. Many science and engineering teachers, in order to facilitate students' understanding and mastery of relevant knowledge, mostly use the basic knowledge and theory of higher mathematics to establish visual models, create conditions for students' deep learning, allow them to fully immerse themselves in independent exploration, demonstrate the application value of higher mathematics, and promote the gradual transformation of educational commonalities among majors. Economic forecasting is one of the tasks of economic management, which falls within its practical scope. At the same time, it has a clear understanding of the overall trend of economic development, greatly improving its application level and demonstrating its characteristics. Economic management, which involves following up on the economic situation and conducting comprehensive analysis and exploration, is also one of its work priorities. Through the basic knowledge and theory of advanced mathematics, it carefully observes the trend of economic development, understands the current market

economy trend, timely identifies many hidden loopholes, greatly improves problem-solving ability, and reduces financial crises. Therefore, when advanced mathematics is reasonably applied, it can provide a lot of help for the economic management of enterprises and achieve ideal economic control effects. In addition, mathematical methods include many types and have become a common means of solving economic problems. It is necessary to establish mathematical economic models in a timely manner according to the current economic situation, with the aim of transforming economic problems into mathematical problems, reducing processing difficulty, and improving solution efficiency.

## 3. APPLICATION OF FUNCTIONAL RELATIONSHIPS

The construction of functional relationships in the economy is a key focus, which is almost identical to the current mathematical construction process. the functional relationship between the two generally requires one or more intermediate variables to achieve content conversion, continuously proving the correlation between the two, or providing corresponding conditions for convenient operation. Professional mathematical knowledge such as functions and limits used in economic forecasting, such as when encountering commodity supply and demand, bank investment collateral, population growth, and machine depreciation value, requires the use of function charts to carefully analyze hidden problems. By extracting key elements and selecting appropriate solutions, accurate relationships between charts can be clearly understood, and verification and inference can be carried out according to the prescribed calculation process, Finally, a true experimental conclusion was drawn.

## 4. THE APPLICATION OF INFORMATION AND COMMUNICATION PLATFORMS AND E-COMMERCE

At present, with the advent of the "Internet" era, information technology has become increasingly mature, and science and technology are also being updated to promote the gradual arrival of the network economy,

which has a great impact on people's lives and consumption concepts. Today, with the development of the internet, the emergence of many emerging industries has attracted high attention from the general public and has also attracted other industries. the rapidly developing information and communication platforms and the e-commerce industry are important representatives, which require a large amount of theoretical support from higher mathematics to promote their stable development and progress. When the theoretical knowledge of advanced mathematics is applied, many new technologies have emerged, such as compilation technology, call queue, etc., which are related to the data generated by the application of advanced mathematics. Basically, they rely on rigorous and complex logical theories to continuously optimize and improve under these conditions, truly exerting their advantages and roles.

## 5. APPLICATION OF ENVIRONMENTAL PROTECTION AND RATIONAL UTILIZATION OF RESOURCES

With the rapid development and progress of the times, in view of the current economic trend of China's actual development, attention should be paid to environmental protection and rational utilization of resources. A comprehensive geological structure detection system should be constructed using the basic theoretical knowledge of advanced mathematics, and a series of analysis and exploration should be carried out to accurately find the specific location of energy sources, such as oil and natural gas. At the same time, corresponding analysis and exploration should be carried out on the data processing of resources, with a focus on developing and utilizing resources, and corresponding protection measures should be formulated to prevent them from facing serious pollution during development.

## 6. APPLICATION OF DIFFERENTIAL EQUATIONS

Differential equations are an important part of higher mathematics, and their application scope cannot be underestimated. They can play a role in multiple fields and solve many

problems in a timely manner. In the process of problem-solving, the focus is on conducting in-depth analysis of the inevitable correlation between quantity and the actual laws that occur. Usually, this phenomenon cannot be objectively represented directly by functions, but rather by combining the current actual situation, using differential equations reasonably under existing computational conditions, establishing relevant computational models, and drawing conclusions through layer by layer calculations. Due to the specific mathematical characteristics of differential equations themselves, they also require the use of many basic theories. Therefore, in the establishment of mathematical models, they can effectively demonstrate the characteristics of normalization and timeliness, providing many conveniences for data analysis and problem solving. For example, when conducting random sampling testing of products and analyzing inventory statistics, these behaviors generally rely on existing conditions to carefully analyze current economic problems and fully reflect the real economic situation. In this case, choose to use the probability theory of advanced mathematics to carefully estimate and analyze. the application of probability theory can only perform targeted calculations on smaller parts of data and is not applicable to larger data. In this way, it effectively saves a lot of manpower and material resources, achieves the expected implementation effect in a short time, and can gradually simplify abstract economic problems, making it convenient for relevant personnel to fully grasp, highlighting its application value [3].

## 7. CONCLUSION

The application of advanced mathematics in the field of economics creates favorable conditions for cultivating students' problem-solving abilities. Not only should mathematics be the core theoretical foundation, but it is also important to emphasize that students always maintain a correct attitude towards mathematical calculations, choose appropriate mathematical solutions based on problems, and gradually apply quantitative analysis methods in the economic field. This can help students clearly realize the value of mathematical methods in the economic field in practice, promote their mathematical knowledge to expand day by day, and inject momentum into the long-term development of the social economy, Promote national prosperity and make tremendous contributions to the harmonious development of society.

## REFERENCE

[1] Li Yuefeng Analysis of the Application of Advanced Mathematics in the Field of Economics [J]. Mathematics Learning and Research, 2020, (08):25.
[2] Li Zhen Exploration of the Economic Application of Calculus in Advanced Mathematics [J]. Mathematics Learning and Research, 2018, (16):10.
[3] Chen Bing Exploring the Practical Teaching of Advanced Mathematics Based on the Economic Field [J]. Public Investment Guide, 2017, (04):278-279.

# Research and Practice on Quality and Ability Enhancement of Silk Road Youth in the New Era

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**Abstract:** Zibo Vocational College of Nursing always adhering to Xi Jinping's new era of socialism with Chinese characteristics as a guide, comprehensively implement the national policy of the Communist Party of China, adhere to the casting of the Chinese national community consciousness throughout the whole process of establishing morality and educating people, and continue to explore new ways to strengthen and promote the progress of national unity in colleges and universities to build a system-wide three-dimensional national unity work model, with the main line of "casting the Chinese national community consciousness". It has constructed a system-wide three-dimensional national unity work model, with the main line of "forging a strong sense of Chinese national community", and focusing on "national strategy", "national unity", "national education", "cultural infiltration" and "national unity" in four dimensions, namely, ideological leadership, collaborative education, precise assistance and cultural infiltration. "national unity" "moral education" three key points, really do the ethnic areas volunteer help have strength, ethnic cultural platform construction has obvious, ethnic students talent training effective degree, to promote the school of teachers and students of all nationalities exchanges and mingling, with love planting Pomegranate seeds", "pomegranate flowers", "pomegranate flowers", "pomegranate fruit", and "pomegranate fruit", to promote the cause of national unity and progress to contribute to indispensable "Zibo Vocational College Wisdom".

**Keywords:** Belt and Road; National Unity; National Community Consciousness

## 1. THE CONSTRUCTION OF THE NATIONAL CULTURAL PLATFORM HAS A SIGNIFICANT DEGREE: CONTINUE THE INHERITANCE, CASTING A FIRM SENSE OF COMMUNITY OF THE CHINESE NATION

The college takes cultural activities as a handhold, guides students to carry forward the Chinese spirit and spread Chinese values, and continuously carries out Chinese classics recitation activities. All the teachers and students recite, watch and perform the classics together, and feel the national education, love the recitation and inherit the culture in the activities. In-depth development of "our festival" theme activities. We make use of the major folk festivals such as Qingming, Dragon Boat Festival, Mid-Autumn Festival, Chung Yeung Festival, Spring Festival, etc., to convey the essence of Chinese folk culture to students. From time to time, the school carries out activities such as the "National Education Masters" challenge, etiquette competitions, calligraphy competitions, the introduction of Chinese traditional culture into schools and the introduction of elegant art into schools. Strengthening the construction of student clubs. By going into the Jixia Society, ritual tea, pottery home ceramics club, national traditional sports club and other outstanding traditional Chinese culture-related student clubs, the silent nurturing of students to promote virtue and perseverance of the personality. It actively promotes revolutionary culture and advanced socialist culture, leading ethnic minority students to carry out revolutionary culture education at the Jiao Yulu Memorial Hall in Boshan, Zhu Yanfu Exhibition Hall in Yiyuan, and Ma Yaonan's former residence in Zhoucun, as well as

entering the Zibo Ceramic and Glaze Museum and the Museum of Qi Culture, where they can feel the profoundness of the Qi culture and learn about the openness and tolerance of the former capital of the State of Qi and the city's spirit of heaviness.

Through regular cultural and sports activities to promote national culture and enrich campus life. Every year, the college holds a campus culture and art festival, "a department and a product 5·12 Nurses' Day brand activities". Relying on the construction of humanities and arts disciplines to vigorously promote national culture, Xinjiang group dance "Love of Flowers" in the new era of high-quality development of vocational colleges and universities in the east and west of the Union "always follow the party, and strive to enter a new era, " the red song will be performed to win a warm round of applause. Basketball, football, table tennis, badminton and other sports competitions held by the college are actively participated and loved by students.

## 2. ETHNICH AREAS TO SUPPORT AND HELP HAVE STRENGTH: THOUSANDS OF MILES TOVISIT, HOME AND SCHOOL LINKAGE CONVERGENCE OF SYNERGIES

Based on the strategic height of realising the great rejuvenation of the Chinese nation, closely focusing on the major development strategies of the country, giving full play to the advantages of relying on the Yellow River Delta High-Efficiency Eco-Economic Zone and the advantages of city-university co-construction resources, and giving full play to the advantages of Zibo Vocational College in terms of talent aggregation, high-end platforms, and nurturing and leadership, Zibo Vocational College will continue to explore the new ways to promote the progress of national unity in the eastern part of the country. Relying on the major national strategic programmes such as targeted poverty alleviation and university-to-college support, it will do its best to strengthen the assistance and support to the ethnic areas and contribute to the common development of the East and the West hand in hand.

Regularly carrying out visits to minority students in Xinjiang during the summer and winter holidays, and caring for their lives,

studies and thoughts. A working group was set up to travel thousands of miles to Urumqi, Kashgar and other places in Xinjiang to carry out home visits to students. To express the sincere greetings of the school leadership and teachers to the parents of the students, introduce the students' study and life at school and comprehensive performance, explain in detail the relevant financial assistance policies of the state and the school and send condolence money. At the same time, the working group went to Kashgar First People's Hospital, Kashgar Second People's Hospital, Kashgar City People's Hospital to visit Xinjiang interns, face to face to listen to students' voices, understand the needs of the students, fully grasp the situation of their internships, and on-site research on the effect of hospital internship teaching. Communication and negotiation with the hospitals on the work of student internship and employment, listening to the hospitals' talent demand and talent training opinions and suggestions, in order to deepen the subsequent cooperation between institutions and make sufficient preparations for guaranteeing the internship and employment of students of Xinjiang nationality.

## 3. EFFECTIVE DEGREE OF TALENT CULTIVATION FOR ETHNIC STUDENTS: ESTABLISHING MORAL VALUES AND HELPING THEM TO TAKE ROOT WITH PRECISION

Strengthen the ideological leadership, adhere to the main ideological and political education, to celebrate the 100th anniversary of the founding of the Party, the 66th anniversary of the founding of the school and other opportunities, highlighting the theme of the "two common" and "three inseparable", and organise ethnic students to carry out a variety of thematic educational activities to stimulate the patriotic sentiment. Patriotic sentiments. the short video "Pomegranate is Red" produced by ethnic students won more than 10, 000 hits on the Internet. Focusing on organisational care, the university adopts the form of mixed class and residence for ethnic students and Han students, so as to internalise national unity in the heart and externalise it in the actions. Continuously strengthening the education of ethnic students' ideals and beliefs,

guiding ethnic students to actively join student unions, self-discipline committees and societies, and significantly increasing the proportion of ethnic students in student unions and self-discipline committees in the past three years. Integrating internal and external resources, the college has formed a team of counsellors, full-time teachers and party members to provide "1-to-1" guidance and assistance to ethnic students through the combination of online and offline forms. The company attaches great importance to the cultivation of ethnic minority students, and actively builds platforms and paths for them to grow up and become successful and devote themselves to the construction of the country, paying attention to the establishment of advanced models and playing the role of leading by example. In recent years, 3 ethnic minority students from Xinjiang have been recruited into the army, and more than 20 employment or entrepreneurship models have emerged. 1 person with excellent performance during the internship period was retained by the People's Liberation Army Southern Theatre General Hospital in Guangzhou, China. 1 student was admitted to the Xinjiang Urumqi Disabled Persons' Federation, and one student won the first prize in the Shandong Province Health Care Innovation and Entrepreneurship Competition. Strengthen the support and guarantee, for the characteristics of ethnic students' weak academic foundation, the implementation of the "two into two joint" study help plan, tailored to the academic support group mutual assistance plan, etc., to stimulate the enthusiasm of ethnic students to study, in the past three years a total of 2 students to obtain undergraduate college acceptance notification, 10 people to participate in the self-study college examination to obtain the undergraduate certificate of Weifang Medical College, 3 people to obtain a teacher's qualification, 60 people to obtain the "mother and child nursing" qualification. In the past three years, 2 students have obtained admission notices from undergraduate colleges and universities, 10 students have obtained undergraduate certificates from Weifang Medical College by taking the self-study college entrance examination, 3 students have obtained

teachers' qualification certificates, and 60 students have obtained qualification certificates of "mother and child nursing".

## 4. CONCLUSION

General Secretary Xi Jinping pointed out in the report of the 20th Party Congress that "we should insist on the unity of learning, thinking and application, and the unity of knowledge, belief and action, and transform the socialist thought with Chinese characteristics in the new era into a strong force that strengthens the ideals, refines the Party's character, and guides the practice and promotes the work". the project insists on casting a firm sense of the Chinese national community throughout the whole process of moral education, implements the "Belt and Road" initiative, inherits and carries forward the spirit of the Silk Road, adheres to the unity of learning, thinking and application, and unity of knowledge, belief and action, and builds a new mode of "five education, five in one" education. It will build a new model of "five education" and "five-in-one" education, create a brand project for improving the quality and ability of minority youth in universities, and cultivate the "four most" technical and skilled talents of minority ethnic groups with "the best moral character and behaviour, the strongest technical skills, the greatest potential for development, and the highest social appraisal".

## REFERENCES

[1] Guo Yaping; Song Mengfei. Investigation and analysis of personal influencing factors on Chinese national community consciousness of minority college students in Xinjiang universities [J]. Frontier Economy and Culture, 2022.

[2] Chen Ying; Lang WeiWei. A Re-examination of the Relationship between Chinese National Community Consciousness and the Five Identities [J]. Journal of Northern University for Nationalities, 2020(01).

[3] Wen Xiaonian; Chen Bingquan. An analysis of the academic support mechanism for Xinjiang minority students with academic difficulties in mainland medical schools [J]. Health Professions Education, 2020, 38(14):34-36.

# A Study on the Factors Influencing Concentration and Countermeasures

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**Abstract:** A relatively large proportion of young people in China have weak focus, and the overall situation is worrying. According to the 2006 China Youth Concentration Survey Report, only 58.8% of respondents believe that they can concentrate during class, and only 39.7% of them can persist in focusing for more than 30 minutes during class. In the 2016 Survey Report on Key Issues in Chinese Family Education, a survey on focus showed that in the family group of 4-6 year old children, the problem of lack of concentration in learning accounted for 33.6%, ranking third; In the family group of children aged 7-18, the proportion of focus issues is 45.3%, ranking ninth. At the same time, with the development and popularization of network technology and mobile communication, teenagers, especially school-age children, are facing more and more distractions in their learning and growth process. According to the Children's Blue Book: China Children's Development Report (2019), the average duration of children using mobile devices on study days is 43.24 minutes per day, while the duration of using mobile devices on weekends is longer, reaching 96.27 minutes per day. In terms of the use of mobile devices, children like watching Tiktok, animation, Kwai, playing online games, and chatting online more than 4 points (out of 5 points). Many school-age children have significantly decreased levels of concentration compared to before. Youth intelligence leads to national intelligence, and youth strength leads to national strength. However, the current situation of children's concentration in our country is becoming increasingly severe, hindering their physical and mental health development, restricting the effective improvement of school teaching quality, and also affecting the harmony and happiness of families and society. the cultivation of children's focus is urgent and is related to the prosperity of the country and the hope of the nation. Although the academic community is paying increasing attention to the issue of children's focus, it is mostly concentrated in fields such as psychology, education, and medicine, and the research objects are mostly normal school-age children. Research in the practical field of social work, especially in the field of children with learning disabilities, still needs to be enriched. Therefore, by combining social work theory and practice to explore the focus of children with learning disabilities, conducting systematic research, and understanding their influencing factors, it is a scientific way to provide more effective support forimproving the focus of children with learning disabilities and helping them grow up healthy and happy. Through intervention practice, it will help enrich and develop the empirical data and evidence for the research on the focus of children with learning disabilities, and also provide scientific basis for social work intervention in the issue of focus of children with learning disabilities. It will deepen the professional role and value recognition of social work in serving the learning disabled children" group, broaden the field of social work services, and promote the development of social work.

**Keywords:** Focus, Children, Influence, Factors

## 1. RESEARCH SIGNIFICANCE

### 1.1 Theoretical significance

This study quantifies children's focus as four variables: auditory focus, visual focus, thinking focus, and external factor interference. Through the use of questionnaire survey, structured interview, and participatory observation methods, empirical research is conducted to enrich China's research on the focus of children with learning disabilities. Therefore, strengthening the research on

social work intervention in this field can enrich the theoretical significance of practicalresearch on the micro level of focus of children with learning disabilities.

## 1.2 Practical significance

Firstly, this study contributes to a preliminary systematic exploration of the micro level factors influencing children's concentration. the author will use literature review, questionnaire survey, structured interview, and participatory observation methods to deeply collect and understand the factors that affect the concentration of children with learning disabilities at various levels, including physiology, psychology, family, school, and environment. Social work professional theories and methods will be used for intervention to help children with learning disabilities establish a support system and improve their concentration.

Secondly, this study examines the macro influencing factors that hinder the development of children with learning disabilities from their perspective, and proposes solutions based on the current situation and needs. This will have reference significance for the government to improve relevant laws on the protection of basic rights and interests of children with learning disabilities, such as education and living environment, and better implement socialist core values such as "harmony, equality, and justice".

## 2. CONCEPTUAL DEFINITION

### 2.1 Focus

Focus, also known as attention, was first proposed by scholar Helmholtz in 1876. He believes that attention is a process in which psychological activities are guided by direction. In 1975, James refined the concept of attention, believing that the essence of attention lies in the selectivity and exclusion of the subject's mind. In this selection process, it includes two important parts: focus and focus. James' definition of attention has had an impact on the research of various disciplines in this field. For example, cognitive psychology believes that attention is a cognitive process in which an individual's will makes choices in the environment; Cognitive neuroscience believes that attention is a psychological phenomenon that is a response triggered by an individual's nervous system when faced with external stimuli, that is, a clear and complete reflection of the individual's will.

There are usually three forms of focus, namely internal focus, focus on others, and external focus.

Intrinsic focus emphasizes self-awareness, requiring strong self-control and willpower to eliminate emotional interference and trace back to the subconscious to make choices. Focusing on othersemphasizes love and emotional choices. Although the degree of attention to others depends on social status, social sensitivity allows people to receive various emotional signals through the expressions, actions, etc. of others, and to better understand and coordinate through empathy.

External focus emphasizes the collective strength and the commonality of team focus. Personal focus is limited, while the external environment is complex, subtle, and ever-changing. Collective focus is beneficial for collecting a large amount of information, deeply understanding and responding promptly. Based on the previous understanding of concentration, the author believes that the definition of concentration should consider the following elements: first, individual will; second, the existence of multiple external stimuli; and third, the process of interaction. Based on this, this study suggests that focus is an individual's ability to selectively concentrate and receive a certain external stimulus when facing multiple external stimuli.

### 2.2 Theoretical basis

2.2.1 Cognitive Development Theory

The theory of cognitive development was founded by Swiss child psychologist Piaget. This theory holds that cognitive development is the result of the interaction between subject and object, andaction is the foundation of cognition and the bridge of the interaction between subject and object.

The earliest actions were innate unconditional reflexes. Children start to interact with the external environment since birth, responding to external stimuli through unconditional reflexes and transmitting distress signals. Various physiological activities and psychological operations that gradually

develop as children grow up play a mediating role in the interaction between individuals and the environment in their cognitive development. Piaget believed that cognitive development is the process of developing cognitive structures.

The main cognitive structure in the perceptual operation stage is the perceptual motion schema.

Patterns have the function of collecting, organizing, summarizing, transforming, and even creating external objective information, in order to enable the subject to effectively adapt to the environment.

The pre operational stage begins with the beginning of language, symbolic function, and thinking.

Children in this stage (2-7 years old) are usually self-centered and believe that everything has a spirit. Therefore, they will only have one standard and dimension when making judgments.

The cognitive structure of the specific operational stage evolves from the representation schema of the pre operational stage to the operational schema. Children at this stage (7-11 years old) begin to develop abstract thinking, which allows them to engage in simple abstract thinking but still requires support from concrete things. They possess characteristics of conservation, detachment from self centeredness, and reversibility.

2.2.2 Psychosocial therapy model

The model of psychosocial therapy is rooted in the theory of multifactorial determinism, which holds that a person's later behavior is predictable and influenced by their early life experiences.

Understanding that a person cannot view themselves as isolated individuals, but rather as individuals in specific contexts, requires consideration of three important factors: physiological, psychological, and social. When social workers analyze the causes of problems with service recipients, they first need to identify and evaluate their personal physiological, psychological, and other aspects, such as physical condition, intelligence level, resilience level, and self adjustment function; Secondly, it is necessary to understand the impact of the family, peer relationships, and social status of the service

recipient on their issues, such as the family upbringing environment, peer group relationships, social identity, and participation.

## 3. A STUDY ON THE FACTORS INFLUENCING CONCENTRATION
### 3.1 Internal influencing factors

Internal attribution is the search for the individual's own influencing factors. In terms of focus, it is specifically manifested in the age, physiological condition, personality traits, and lifestyle habits of children with learning disabilities.

In terms of analyzing the influencing factors of age, experts conducted a questionnaire survey on the concentration of about 2000 primary and secondary school students in 12 cities across the country, and found that increasing age will increase their attention speed and broaden their attention range.

In terms of physiological conditions, scholars have found that amblyopia, sensory dysfunction, and high or low blood lead levels are important factors affecting one's concentration, and are negatively correlated with their concentration level.

In terms of personality traits, some scholars used the Eysenck Personality Questionnaire to test the personality traits of 1045 students in Shenyang City. They found that children with learningdisabilities with lower levels of focus often exhibited personality traits such as anxiety, depression, loneliness, emotional instability, poor social adaptation, and immature psychological development.

The academic community has conducted extensive research on the relationship between focus and lifestyle habits. Scholars have conducted a survey on 1138 students in Changsha City in terms of sleep time, sleep quality, and classroom concentration levels, and found that a decrease in sleep time and sleep quality can reduce students' classroom concentration; Studies by scholars have also shown that excessive TV watching can affect the development of children's concentration, leading to difficulty concentrating, limited conscious attention development, poor attention transfer ability, and triggering brain fatigue; In addition, some experts conducted a survey on the dietary structure and behavior of 49 children with learning disabilities and 50 normal students in Guangzhou, and found that

choosing breakfast with an unreasonable dietary structure and consuming snacks are positively correlated with learning disabilities, and can have adverse effects on health and concentration levels.

## 3.2 Exteral influencing factors

Unlike internal attribution, external attribution believes that the cause of individual problems is not the individual itself, but rather external objective factors. In the study of focus, most scholars focus on external factors such as family background, school education, interpersonal relationships, and social environment to explore the impact of these external factors on children with learning lisabilities and focus. Family is the most influential driving force in children's psychological development and socialization process, and the family environment is crucial for children's physical and mental health growth. There are many family factors that affect the concentration level of children with learning disabilities, such as fargily learning atmosphere, parental education level, parenting style, parent-child relationship, etc.

## 4. RESEARCH ON STRATEGIES FOR ENHANCING FOCUS

### 4.1 Viewpoint based on children with learning disabilities themselves

4.1.1Professional training in sensory and executive functions is an effective way to enhance focus. Mainly through visual, auditory, and tactile training.

4.1.2 Training in executive ability can improve the attention grabbing neural network system and effectively enhance children's concentration.

4.1.3 Sports, entertainment and other auxiliary training have a positive promoting effect on improving focus.

4.1.4 Go activities have a positive impact on the improvement of children's focus, mainly manifested in the stability, concentration, and sustainability of focus.

4.1.5 Physical exercise exercises children's coordination abilities in the eyes, hands, and brain, effectively promoting the brain's control over limbs and consciousness, and significantly improving their concentration.

### 4.2 Perspectives from the External Perspective of Children with Learning Disabilities

4.2.1 Improving the family parent-child relationship and mental health status of children with learning disabilities, enabling them to recover better psychological and social functions, thereby correcting their learning attitude, and promoting their concentration and enhancement.

4.2.2 Learning interest is an important factor that affects children's learning initiative and focus.

4.2.3 The affinity of teachers, the use of motivational methods, the regulation of student emotions, and the lively teaching methods are all closely related to students' leaming interests, and areeffective measures to improve children's classroom focus.

4.2.4 In the social environment, the design of green landscapes can help improve the level of focus. Foreign scholars have found that the functions of parks, streets, communities, and other spaces constructed by trees, flowers, and other green plants not only provide ecosystem services, but also help people improve their focus and achieve their goals in life while maintaining focus.

## REFERENCES

[1] Chen Guopeng, Liu Shen (1998) Report on the National Norm Development of the Attention Test for Primary and Secondary School Students. Psychological Science, 021(005), 401-403.

[2] Chen Jialin, Zhang Zhong (2007). Review of research on the development of self-awareness among adolescents in China. Journal of Liaoning Normal University (Social Sciences Edition), 2007, (05), 49-52.

[3] Chen Weimin, Sang Biao (2002). Review of Research on Children's Self Control. Advances in Psychological Science, (01), 66-71.

[4] Deng Ciping, Liu Jinhua (1997). Research on the Development of Children's Self Control Ability. Contemporary Youth Studies, (03), 26-30.

[5] Zhai Yinfei (2012). Research on the Focus of Teachers and Students in Physical Education Teaching (Master's Thesis). Central China Normal University, Wuhan.

[6] Dong Guangheng (2005) A confirmatory factor analysis and developmental characteristics of self-control ability structure

in children aged 3-5 years old (Master's thesis). Liaoning Normal University, Dalian.

[7] Han Lulei (2021). the mediating effect of attention quality on the relationship between mobile electronic media usage and reading fluency in primary school students (Master's thesis). Tianjin Normal University.

# Research On the Application Strategy of Wechat Official Account in College Student Management

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**Abstract:** With the advent of the information age in China, WeChat has penetrated into the daily life and work of contemporary people. Through WeChat, people can connect more conveniently and quickly obtain the information they want. In this regard, the student management and control work in higher vocational colleges also follows the pace of information technology development, changes the traditional work mode, and uses WeChat official account to enhance the effect of student management and control work.

**Keywords:** WeChat official account; College student management; Application strategy

## 1. INTRODUCTION

In the context of continuous development of network technology, sharing data transmission platforms are gradually replacing traditional media. University is an important base for cultivating talents. the quality of student management has a great impact on the quality of university talent training. WeChat official account has gradually been widely used in the management of college students. When using WeChat official account, colleges and universities pay attention to the actual situation of the school and the needs of students, and make corresponding improvements to WeChat official account, so that the function of WeChat official account can be effectively reflected, thus promoting the effective management of college students.

## 2. DEVELOP AND IMPROVE THE CONTROL SYSTEM TO ENSURE THE GOOD OPERATION OF WECHAT OFFICIAL ACCOUNT

The WeChat official account was created in the process of Internet development. Because it is still in its infancy, the relevant policies and systems are not sound enough. Therefore, a sound management system must be established to ensure the good use of WeChat official account. When colleges and universities use WeChat official account, there is no clear workflow, resulting in some work deficiencies, affecting the use of WeChat official account. Before creating WeChat official account, colleges and universities should develop a set of scientific management methods to refine the work content of WeChat official account to ensure its normal work. It is also necessary to carry out a comprehensive investigation on the situation of the university and the student management work, find out the shortcomings in the student management work of the university, and develop a WeChat official account management system suitable for the university to ensure that the student management work is carried out reasonably. In addition, the good operation of the university's WeChat official account can not be separated from the cooperation of supervisors. It is necessary to supervise its related work, ensure the quality of work, and make the effect of the WeChat official account better displayed. Schools should establish a sound supervision system in accordance with relevant work requirements to ensure that their work can be carried out in accordance with regulations. Perfect supervision mechanism is an important way to ensure the work quality of WeChat official account, and also an effective way to improve the utilization rate of WeChat official account. In a word, when applying for and using WeChat official account, we should establish a relevant management system according to the specific situation of the school to ensure that WeChat official account can better play its functions and promote the

effective completion of college student management [1].

## 3. STRENGTHEN INFORMATION QUALITY AND FURTHER REFLECT THE EFFECTIVENESS OF WECHAT OFFICIAL ACCOUNT

Applying WeChat official account to college student management can effectively improve the effectiveness of student management. At present, some colleges and universities have not paid enough attention to WeChat official account, and the implementation of related work is not strict, resulting in its related functions not being well reflected. Colleges and universities should be aware of the key significance of WeChat official account, increase their attention to the relevant work of WeChat official account, and establish a sound management system. In addition, when universities use WeChat official account to release information, they lack of research on students' needs, resulting in the lack of effectiveness of information, which is difficult to attract students' attention. So. When conducting information screening, it is important to first understand the needs of students and select their favorite topics in order to stimulate their desire to read. the school can also publish original articles on the official account of WeChat, let students write by themselves, and send good articles to the official account of WeChat. In this way, students' enthusiasm can be greatly aroused and they can participate in the content of WeChat official account, which can not only improve the information quality of WeChat official account, but also improve the frequency of use of WeChat official account, so as to better promote WeChat official account and make contributions to the management of college students. For example, when universities hold some activities, they can use the WeChat official account to publicize the process and content of the activities in a timely manner, so that students can have a comprehensive understanding of the activities, which can increase the number of applications of the WeChat official account and make college students more trust the WeChat official account.

## 4. GAIN A DEEPER UNDERSTANDING OF STUDENT NEEDS AND DEMONSTRATE SERVICE EFFECTIVENESS

In addition to the functions of information transmission and publicity, WeChat official account also has the effect of serving students. While doing a good job in student management and control, it uses its service functions to provide more convenient services for students. First, we should strengthen the service function of college students to ensure the overall service effect. At present, the service function of WeChat official account is not perfect, but only provides basic queries. Most of the problems students encounter in their study can not be reasonably dealt with through WeChat official account, resulting in the appearance of WeChat official account, making WeChat official account unable to be well publicized and used among students. Universities should be based on reality, increase appropriate functions according to the needs of students, not only facilitate their studies, but also ensure their convenience in life, timely solve various difficulties for them, and provide comprehensive services to improve the level of university student management. For example, when using the service function of WeChat official account, universities can regularly analyze the use of students, collect feedback from students, and continuously improve the effectiveness of relevant services. In a word, its service effectiveness is a main way of student management. On the basis of a deep understanding and analysis of the real needs of students, we will improve the service function of WeChat official account, so as to better promote the development of college student work [2].

## 5. ENHANCE THE PROFESSIONAL ABILITIES OF RELEVANT PERSONNEL

At present, teachers are mainly responsible for the university's WeChat official account. They have less knowledge and understanding of WeChat official account, and have insufficient grasp of information technology, which leads to defects in the management of WeChat official account. Colleges and universities should strengthen the professional quality

training of the managers of WeChat official account and equip professional official account administrators to ensure their professionalism. Professional training can be carried out for administrators of WeChat official account to continuously improve their own business ability, so as to better guide the application of WeChat official account in college student management. the school can also regularly evaluate the administrator of the official account to ensure that the administrator has strong professional quality. While creating a WeChat official account, the school can also recruit a group of professional and technical personnel from outside to ensure their strength. When recruiting from the public, the school should have a detailed understanding of the educational level, professional ability and work experience of the staff to ensure that the recruited staff can meet the needs of the school. At the same time, a professional WeChat official account management team should be established to better promote the management of college students [3].

## 6. CONCLUSION

In the era of the internet, WeChat has become an important channel for people to communicate and obtain information. the good use of WeChat official account can better improve the quality of student control work. When using WeChat official account, colleges and universities should establish a sound management system to ensure its normal operation. At the same time, deepen the analysis of students' needs, so that the information released can arouse students' curiosity, thus improving the number of times college students use WeChat official account. In addition, in the process of building a WeChat official account, colleges and universities should continue to improve the professional quality of employees, establish a scientific talent team, and promote the effectiveness of the official account.

## REFERENCE

[1] Liao Luqin. Construction ideas and practice of college students' "micro party affairs" work in the era of micro media -- take the WeChat official account of the "home of financial and economic students of Guangzhou Normal University" as an example [J]. Communication and Copyright, 2022(07):116-118.

[2] Wei Manxia, Cai Cheng. Research on the operation status and optimization of the WeChat official account of college student associations -- taking the official account of "Guangwai Yunshan Herbal Tea Shop" as an example [J]. Western Academic Journal, 2018(05):87-91.

[3] Liu Yongping. Research on the construction of the "Internet plus party building" platform for college teachers and students -- Taking the WeChat official account of the student party branch of the School of Management of Liaoning University of Technology as an example [J]. Caizhi, 2018(12):102-103.

# Exploring the Management of College Students under the Background of Employment Orientation

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**Abstract:** the employment problem of college students is the focus of current social development, and many college students are facing the dilemma of unemployment upon graduation. In order to ensure that college students have a good career development prospect, universities need to establish an employment-oriented student management system, focusing on improving the employment ability and level of college students, aiming to lay a solid foundation for their future development. This article takes the management of college students under the background of employment orientation as the research object, conducts a detailed analysis and in-depth exploration, in order to share and exchange with relevant education and teaching workers.

**Keywords:** Employment Orientation; Higher Education; Student Management Work; Current Situation and Strategy

## 1. INTRODUCTION

The management of college students is a fundamental condition for ensuring the orderly, scientific, and efficient development of higher education, and it is also a necessary measure to promote the comprehensive ability and literacy development of college students. Therefore, improving the quality and efficiency of college student management is crucial. the employment oriented management of college students can significantly enhance their employability and help them become versatile talents needed for social development. This plays a key role in solving the social problem of difficult employment for college students. At present, employment oriented student management in universities is facing many problems, which seriously weaken the substantive role of student management and hinder the process of career development for college students. Based on this, the management of college students must accelerate the pace of reform and innovation, form an employment-oriented management system and concept, and aim to provide strong support for the future development of college students.

## 2. THE NECESSITY OF STRENGTHENING THE MANAGEMENT OF COLLEGE STUDENTS

Under the employment-oriented background, doing a good job in managing college students is of great significance to the development of the country, society, schools, and college students. From the perspective of college students, practicing the employment oriented college student management concept is beneficial for them to form good comprehensive qualities, including employability, professional competence, values, and spiritual qualities, which will become the cornerstone of their future development; From the perspective of the country, employment oriented student management in universities can ensure the scientific construction of the talent pool required for national development.

In recent years, the number of fresh college graduates in China has shown a continuous growth trend. the first thing college students do when entering society is to find a job and realize their own value, which leads to conflicts between the number of college graduates and the number of job positions. Many college students have unclear advantages in employment competition, resulting in a situation where they cannot find a job for a long time. By keeping up with the

trend of social development and promoting employment oriented student management ideas, universities can improve their employability during their time in school, enabling them to have a correct understanding of the current social employment situation and the advantages and disadvantages of their own employment. They can also provide professional and systematic employment education for college students. In this way, college students will have obvious advantages and full confidence in future career development and employment competition.

## 3. THE CURRENT SITUATION OF STUDENT MANAGEMENT IN UNIVERSITIES UNDER THE BACKGROUND OF EMPLOYMENT ORIENTATION

### 3.1 Inadaptation between educational philosophy and employment needs

The management of college students has a certain degree of complexity and involves a wide range of specific work, including various aspects. Among them, employment is the focus and key point of student management work. At present, there are problems with inadequate and unsmooth implementation of student management in universities, and even some management work tends to be formalized, resulting in a lack of effectiveness in the entire management work and the inability to play the role and value of management. For example, although some universities have implemented employment oriented ideas in student management work, overall education management ideas are still relatively conservative, making it difficult to guide student management work to achieve comprehensive reform and effective implementation. Taking employment education as an example, although teachers carry out student management work in accordance with the requirements put forward by the school, they exhibit singularity, one-sidedness, and dryness in terms of educational methods and content. Teachers are enthusiastic about using theoretical indoctrination to impart theoretical knowledge about employment to college students, seriously ignoring their subjectivity, resulting in a lack of adaptability in employment oriented student management work Scientificity and effectiveness.

### 3.2 Insufficient effectiveness in student management and employment

Although many universities have increased their emphasis on employment oriented student management and implemented various effective student management reform measures, the actual results have not been ideal, which is a problem of unclear employment effectiveness in university student management. For example, some universities only focus on improving students' employability in student management work, but neglect to cultivate and develop their ideological qualities and moral spirit, resulting in serious lag and disconnection in their professional qualities. Even if college students graduate smoothly and enter the society for job seeking, they cannot obtain a good competitive advantage in employment. Therefore, there is a lack of comprehensive employment oriented student management work, which is difficult to provide support for the career development of college students.

## 4. STRATEGIES FOR MANAGING COLLEGE STUDENTS IN THE CONTEXT OF EMPLOYMENT ORIENTATION

### 4.1 Carry out top-level design and establish employment oriented concepts

Based on the changes in China's employment situation, it is crucial for universities to implement employment oriented student management work. In order to ensure the supporting role of student management work in the career development of college students, universities should do a good job in top-level design and establish employment oriented concepts, providing good guidance and constraints for the specific implementation of student management work. Firstly, universities can use the system as the basis for implementing employment oriented student management work, truly integrating employment concepts into the institutional system of student management. Doing a good job in top-level design can not only guide the effective implementation and specific development of student management work, but also increase the attention of teachers and students in the school, laying a foundation for

implementation work. In addition, the top-level design should also focus on curriculum design, and develop employment oriented school-based courses based on the current social employment situation, creating favorable conditions for implementing employment oriented student management work. Secondly, universities rely on policy advantages to attract professional employment guidance talents to society, supplement the teaching staff of employment oriented student management in universities, and provide strong support for carrying out vocational planning education, employment ability cultivation, and other work. This has a significant effect on optimizing the level of student management in universities.

**4.2 Using the Internet to create a student management platform**

In the context of the development of information and digital society, the management of college students should also keep pace with the times, accelerate the construction process of information based student management models, aim to improve the quality and efficiency of student management work, and enhance the integration effect of employment education and student management work. For example, colleges and universities use the Internet to create a student management platform with employment as the core. Teachers and students can share their experience, feelings and knowledge about employment on the network platform. Schools can regularly publish various employment information on the network platform. Of course, they can also rely on the network platform to carry out questionnaires to understand and master the employment concept and career planning of college students. the construction of an information-based university student

management platform can provide more diversified employment education paths for college students and play an important role in their later career development.

**5. CONCLUSION**

In summary, with the increasingly severe employment situation in China, the number of college students who cannot find jobs continues to increase every year, which has a negative impact on the development of our society. Therefore, it is imperative for college student management to practice the employment oriented concept. After years of innovative practice, the employment oriented management of college students has successfully alleviated the difficulty of employment for Chinese college students and significantly improved the comprehensive level of talent cultivation in Chinese universities. the above mainly proposes a relatively reasonable employment oriented college student management strategy from the two directions of doing a good job in top-level design and establishing the employment oriented concept, and using the Internet to build an information platform for student management, hoping to help college education reform.

**REFERENCE**

[1] Zhang Li Research on the Development of Higher Education Management from the Perspective of Employment Ability Cultivation [J]. University, 2023, (01):66-69.

[2] Xu Hongye, Zhu Yan, Pan Hong'en Analysis of Innovation Pathways in Higher Education Practice Based on Employment Orientation [J]. Employment and Security, 2021, (23):70-72.

# Current Status and Reform Strategies of Sight Singing and Ear Training in Music Education

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**Abstract:** This paper aims to explore the current status and reform strategies of sight singing and ear training in music education to enhance students' musical literacy and skills. Sight singing and ear training play a crucial role in developing students' auditory perception, music comprehension, and performance abilities. However, there are challenges and issues in current music education practices, such as limited teaching content, mechanical teaching methods, and low student engagement. Therefore, this paper proposes corresponding reform strategies in terms of teaching objectives, content, methods, and evaluation. Firstly, clear teaching objectives should be established, focusing on developing students' music perception, rhythmic sense, and harmonic awareness from both a musical literacy and skill perspective. Secondly, the teaching content should be expanded to include not only sight singing and ear training skills but also music theory knowledge and appreciation and analysis of musical works. Thirdly, diverse teaching methods such as scenario-based teaching, cooperative learning, and the application of information technology should be explored to stimulate students' interest and initiative. Finally, evaluation methods should be improved, with emphasis on comprehensive evaluation that integrates sight singing and ear training with other music skills to form a holistic assessment system. By implementing these reform strategies, the effectiveness of sight singing and ear training in music education can be enhanced, promoting students' comprehensive musical literacy and skills development.

**Keywords:** Music Education, Sight Singing, Ear Training, Reform Strategies, Musical Literacy, Teaching Methods.

## 1. INTRODUCTION

### 1.1 Research Background and Significance

Music education plays a vital role in developing students' musical literacy and skills. As an important component of music education, sight singing and ear training are effective means to cultivate students' auditory perception, music comprehension, and performance abilities. However, there are still challenges and issues in the current practice of sight singing and ear training, such as limited teaching content, mechanical teaching methods, and low student engagement. Therefore, it is of great significance to comprehensively study the current status and reform strategies of sight singing and ear training in music education to enhance the quality of music education and cultivate students' comprehensive musical literacy.

### 1.2 Objectives and Research Questions

This study aims to explore the current status and reform strategies of sight singing and ear training in music education to enhance students' musical literacy and skills. Specific objectives include gaining a deep understanding of the definition and connotation of sight singing and ear training, analyzing the importance of sight singing and ear training in music education and their role in developing students' musical literacy, and investigating the interrelationship between sight singing and ear training and other music skills. Research questions include identifying the problems in the current practice of sight singing and ear training, exploring how to enhance the effectiveness of sight singing and ear training through reform strategies, and investigating how sight singing and ear training can be integrated with other music

skills to form a comprehensive music education system.

## 2. THE IMPORTANCE OF SIGHT SINGING AND EAR TRAINING IN MUSIC EDUCATION

### 2.1 Definition and Connotation of Sight Singing and Ear Training

Sight singing and ear training refer to the ability to accurately perceive and sing or read the pitch, duration, and other information of musical notes. It encompasses accurate perception of pitch, rhythmic sense, and expressive interpretation. Sight singing and ear training not only require students to visually perceive musical notes but also to understand and accurately perform the specific musical requirements. This ability plays a crucial role in music education and serves as the foundation for developing students' musical skills and literacy.

### 2.2 The Role of Sight Singing and Ear Training in Developing Musical Literacy

Sight singing and ear training, as essential components of music education, play a significant role in developing students' musical literacy. Firstly, sight singing and ear training cultivate students' music perception abilities. By perceiving the pitch, duration, timbre, and other characteristics of musical notes, students can better understand and appreciate the expressive aspects of musical works, enhancing their musical perception and appreciation. Secondly, sight singing and ear training develop students' rhythmic sense. By accurately grasping the note values and rhythmic changes, students can better understand and interpret the rhythmic features of music, enhancing the accuracy and expressiveness of music performance. Furthermore, sight singing and ear training foster students' harmonic awareness. By perceiving the intervals, chords, and relationships between parts, students can better understand and analyze the harmonic structure of music, enhancing their understanding and application of music harmony.

### 2.3 The Interrelationship between Sight Singing and Ear Training and Other Music Skills

Sight singing and ear training are closely related to and complement other music skills.

Firstly, the integration of sight singing and ear training with vocal techniques improves students' singing abilities. By accurately perceiving the pitch and duration of musical notes, students can better master the pitch and rhythm of songs, enhancing vocal techniques and performance abilities. Secondly, the integration of sight singing and ear training with instrumental performance techniques helps students better understand sheet music and accurately play musical instruments. By accurately perceiving the pitch and duration of musical notes, students can better grasp the performance requirements of sheet music, improving instrumental performance techniques and expressiveness. In addition, the integration of sight singing and ear training with music theory knowledge aids students' understanding and analysis of musical works. By perceiving the pitch, interval, and harmonic relationships, students can better understand and apply music theory knowledge, enhancing their abilities in music analysis and composition.

In music education, the importance of sight singing and ear training cannot be underestimated. They not only serve as key components in developing students' musical literacy and skills but also interrelate with vocal techniques, instrumental performance techniques, and music theory knowledge to form a comprehensive music education system. Therefore, in-depth research on the current status and reform strategies of sight singing and ear training in music education is of great significance to enhance the quality of music education and cultivate students' comprehensive musical literacy.

## 3. CURRENT STATUS OF SIGHT SINGING AND EAR TRAINING IN MUSIC EDUCATION

### 3.1 Setting Teaching Objectives and Content

In music education, the teaching objectives of sight singing and ear training are to develop students' accurate perception of pitch and duration of musical notes, as well as their understanding and accurate expression of musical requirements. the teaching content mainly includes perceiving intervals, grasping rhythm, and understanding harmony. the teaching objectives and content of sight singing and ear training should be reasonably

and clearly established based on students' age, music experience, and learning abilities to ensure targeted and effective teaching objectives.

## 3.2 Utilizing Teaching Methods and Resources

Currently, various teaching methods are employed for sight singing and ear training in music education, including sing and read, note matching, and imitation singing. Different teaching methods are suitable for students at different levels and ages, and teachers need to select appropriate teaching methods based on students' characteristics and needs. Additionally, the utilization of teaching resources plays a crucial role in sight singing and ear training. Using music teaching software, sight singing and ear training exercise books, and music teaching videos can enrich the teaching content and enhance students' learning interests and engagement.

## 3.3 Evaluating Student Engagement and Learning Outcomes

In music education, student engagement and learning outcomes are important indicators for evaluating the effectiveness of sight singing and ear training. Student engagement is reflected in active participation and the degree of engagement in learning tasks during class, which can be evaluated through observation of students' reactions and participation. Learning outcomes can be assessed through students' musical performances, examination results, as well as their understanding and application of music knowledge. Additionally, teacher feedback and student self-assessment are important references for evaluating learning outcomes.

However, there are challenges in the current practice of sight singing and ear training in music education. Firstly, the setting of teaching objectives and content may be unclear or insufficiently defined, leading to students' lack of clarity regarding learning goals and requirements. Secondly, the selection of teaching methods and the utilization of teaching resources may not be diverse and flexible enough to meet different students' learning needs and interests. Additionally, the evaluation of student engagement and learning outcomes may not be comprehensive and objective, lacking scientific evaluation methods and standards.

To address these challenges, reforming the teaching strategies for sight singing and ear training is necessary. Firstly, clear and well-defined teaching objectives should be established, emphasizing the cultivation of both musical literacy and skills, focusing on developing students' music perception abilities, rhythmic sense, and harmonic awareness. Secondly, the teaching content of sight singing and ear training should be expanded to include not only training on sight singing and ear training skills but also music theory knowledge, appreciation of musical works, and analysis of music. Thirdly, diverse teaching methods, such as scenario-based teaching, cooperative learning, and the application of information technology, should be explored to stimulate students' interest and initiative. Lastly, evaluation methods should be improved, with a focus on comprehensive evaluation that integrates sight singing and ear training with other music skills, forming a complete evaluation system.

## 5. CONCLUSION

Through the exploration of the current status and reform strategies of sight singing and ear training in music education, it can be concluded that sight singing and ear training, as indispensable components of music education, play an important role in developing students' musical literacy and skills. However, challenges and issues exist in the current practice, such as unclear teaching objectives and content, limited teaching methods and resources, and inadequate evaluation of student engagement and learning outcomes. Therefore, reforming sight singing and ear training requires the establishment of clear teaching objectives, the expansion of teaching content, the exploration of diverse teaching methods, and the improvement of evaluation methods. Future development and prospects include insights for music education practices, challenges and solutions, and further research directions and significance. By continuously improving and innovating sight singing and ear training teaching, the effectiveness of music education can be enhanced, cultivating students' comprehensive musical literacy and skills. Please note that the above is just an example of a writing framework, and the specific content and

discourse style can be adjusted and supplemented based on the actual research situation.

## REFERENCE

[1] Chen Yaxian. Talk about higher normal music education professional sightsinging practice ear class learning method changes [J]. Journal of fujian normal university: philosophy and social sciences, 2001(2):5. DOI: 10.3969/j. i SSN. 1000-5285.2001.02.029.

[2] Rockman. A Preliminary study on the teaching law of solfeggio and ear training for Music Education Major in normal universities [J]. Journal of Xinghai Conservatory of Music, 2000(2):3.

[3] Zhou Hui. Research on Dalcroz's Music Teaching Method in solfeggio and ear Training Teaching in primary and secondary schools [D]. Hunan normal university, 2012. DOI: 10.7666/d. y. 2148094.

[4] Zhang Lijuan. Improve the music education department sightsinging practice teaching quality of ear training qualified teachers' talents [J]. Journal of music research, 2000(3):6. DOI: CNKI: SUN: YYTS. 0.2000-03-014.

[5] Wang Xuehua. Music education professional sightsinging ear class teaching is a preliminary study [J]. Journal of new sound yue: journal of shenyang music college, 1996(3):3. DOI: CNKI: SUN: YYXY. 0.1996-03-015.

[6] Li Ting. Adjustment, Extension and Transformation -- Three Suggestions on solfeggio and ear Training Teaching in Professional Music Education [J]. Music of the People, 2003.

[7] Zhang Lijuan. Improving the Teaching Quality of solfeggio and ear Training in Music Education Department to Train Qualified Teachers [J]. Music Exploration, 2000.

[8] Zhang Lijuan. Improve the music education department sightsinging practice teaching quality of ear training qualified teachers' talents [J]. Journal of music exploration: journal of sichuan music institute, 2000. the DOI: CNKI: SUN: YYTS. 0.2000-03-014.

[9] Bai Xiaoning. Teaching Research of solfeggio and ear Training Course in Basic Music Education in colleges and universities [J]. New Curriculum Research (Higher Education), 2010.

[10] Zhao Haoling Zi. the aesthetic education function of solfeggio and ear training in secondary vocational Music Education [J]. Avant-garde, 2023(15):0194-0196.

[11] Li Ruoxuan. Integrated in the music classroom teaching in practice [J]. Progress in education, 2023, 13(11):4. DOI: 10.12677/AE. 2023.13111344.

[12] Ma Li. Construction of effective choir teaching classroom in primary school music [J]. Questions and Research, 2023(1):182-184.

[13] Zhang Jie. Exploration of Quoting Western Classical Music Works in solfeggio and ear training teaching in art colleges [J]. Times Report (Rushing), 2023(8):67-69.

[14] Zhang Dongyang. the importance of solfeggio ear Training in Junior High school Music Teaching [J]. Art Review, 2023(1):124-126.

[15] Shao Weidong, Zhang Yunxiao. When preschool educators encounter solfeggio for ear training: An analysis of the selection of solfeggio content in early childhood music education [J]. Hua Xi, 2023(1):0158-0160.

[16] Zhang Yuhan. Exploring the application of Orff's music teaching Method in the teaching of preschool education in higher vocational colleges -- taking "solfeggio and ear Training" course as an example [J]. Theatre House, 2023(4):175-177.

[17] Zhang Jian. Discussion on the teaching of solfeggio and ear Training in College Musicology majors under the background of Informatization [J]. Grand View of Art, 2023(9):100-102.

# The Role of University Libraries in Cultivating Students' Critical Thinking Skills

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**Abstract:** This paper aims to explore the role of university libraries in cultivating students' critical thinking skills. Through literature review and analysis, it is found that university libraries play an important role in the development of students' critical thinking skills. Firstly, as the center of information resources, university libraries provide abundant academic literature and diverse subject information, which supports students' research and critical thinking. Secondly, university libraries offer academic guidance and training services, helping students acquire skills in information retrieval and evaluation, and nurturing their analytical abilities. Additionally, academic events and exhibitions organized by university libraries provide opportunities for students to showcase their critical thinking, promoting academic exchange and intellectual engagement. Lastly, this paper discusses the challenges faced by university libraries in cultivating students' critical thinking skills and proposes corresponding strategies. In conclusion, university libraries play a vital role in cultivating students' critical thinking skills, laying a solid foundation for their academic growth and lifelong learning.

**Keywords:** University libraries; students; critical thinking skills; information resources; information retrieval; academic events

## 1. INTRODUCTION

### 1.1 Research Background

With the advent of the information age, cultivating students' critical thinking skills has become an important task in education. As a crucial source of academic resources, university libraries play a significant role in fostering students' critical thinking skills. However, to date, there has been limited research and evidence on the specific role and impact of university libraries in cultivating students' critical thinking skills. Therefore, this paper aims to explore the role of university libraries in fostering students' critical thinking skills through comprehensive analysis of existing literature.

### 1.2 Research Objectives and Significance

The objective of this study is to systematically summarize and analyze relevant literature, revealing the role and influencing factors of university libraries in fostering students' critical thinking skills. Through a review of existing research, it can provide more effective guidance and services to university libraries, promoting the cultivation of students' critical thinking skills. Additionally, the results of this study have implications for the education sector and library managers, offering guidance in designing more reasonable training programs and strategies.

## 2. UNIVERSITY LIBRARIES AS CENTERS OF INFORMATION RESOURCES

### 2.1 Abundance of Academic Literature and Subject Information

As centers of information resources, university libraries provide abundant academic literature and subject information, which is essential for students' research and critical thinking. Chen Chunsong (2013) points out that one of the main tasks of libraries is to collect, organize, and provide academic literature, which provides students with extensive reading materials and stimulates their critical thinking. Research by Wang Xuefang et al. (2015) demonstrates that access to and utilization of subject information play a crucial role in fostering students' critical thinking skills.

### 2.2 Support for Research and Critical Thinking

University libraries not only provide academic literature and subject information but also

offer academic guidance and training services to help students master skills in information retrieval and evaluation, fostering their critical thinking abilities. Li Nannan's (2018) research shows that university libraries, through information literacy training courses and personalized guidance, assist students in acquiring information retrieval skills and evaluating information, thereby cultivating their critical thinking. Additionally, university libraries organize academic events and exhibitions, providing students with opportunities to showcase critical thinking, promoting academic exchanges and intellectual stimulation (Cao Hongli, 2021).

## 3. ACADEMIC GUIDANCE AND TRAINING SERVICES PROVIDED BY UNIVERSITY LIBRARIES

### 3.1 Cultivating Information Retrieval Skills

University libraries help students acquire effective retrieval strategies and tools by providing training and guidance in information retrieval. For example, libraries can organize information literacy training courses to teach students how to efficiently retrieve literature using library databases and academic search engines. Through learning and practice, students can understand different retrieval methods and search strategies, cultivating their ability to accurately, comprehensively, and effectively obtain the required information. Li Nannan's (2018) research indicates that students, during the information retrieval training process at libraries, not only acquire information retrieval skills but also foster their critical thinking abilities to evaluate and judge the obtained information.

### 3.2 Cultivating Critical Thinking Skills

University libraries cultivate students' critical thinking skills by providing academic guidance and consultation services. Librarians offer guidance in academic writing, helping students organize their thoughts, explore the essence of problems, and develop critical thinking skills. Moreover, libraries can offer courses on research methods and critical thinking, teaching students how to pose questions, gather evidence, analyze, and evaluate information, thereby fostering their critical thinking skills. A survey by Wu Yumin et al. (2019) reveals that critical

thinking training courses provided by university libraries significantly enhance students' thinking abilities, strengthening their deep understanding and analytical skills regarding information.

## 4. ACADEMIC EVENTS AND EXHIBITIONS ORGANIZED BY UNIVERSITY LIBRARIES

### 4.1 Opportunities for Academic Exchange

University libraries regularly organize academic lectures, seminars, and conferences, providing platforms for students to engage in academic exchanges and discussions with professionals and fellow students. These events offer students opportunities to showcase their critical thinking and continuously sharpen and enhance their thinking abilities through communication and debates. Kang Yueqin's (2004) research suggests that students' participation in academic exchange activities broadens their academic horizons, stimulates academic interests, and promotes the development of critical thinking and innovative abilities in the academic field.

### 4.2 Showcasing and Encountering Critical Thinking

University libraries also hold student work exhibitions and academic research result displays, providing platforms for students to showcase their critical thinking. Through academic papers, research reports, innovative projects, and other forms, students demonstrate their achievements and discoveries in critical thinking. This not only enhances students' confidence and academic abilities but also provides opportunities for other students to observe and learn, fostering the exchange and encounter of critical thinking. Research by Lin Yuechai and Lin Yuying (1996) found that students' participation in academic exhibitions enhances their critical thinking and innovative abilities, stimulating their interest and enthusiasm for academic research and exploration.

## 5. CHALLENGES FACED BY UNIVERSITY LIBRARIES IN CULTIVATING STUDENTS' CRITICAL THINKING SKILLS

### 5.1 Resource Management and Updates

University libraries face challenges in resource management and updates. With the continuous development and expansion of disciplinary knowledge, libraries need to promptly acquire the latest academic literature and information resources to meet students' learning and research needs. However, managing and updating resources requires significant human and financial resources, as well as maintaining good cooperation with publishers and database suppliers. Therefore, libraries need to formulate effective resource procurement and management strategies to ensure that students can access the latest, accurate, and authoritative academic resources.

5.2 Challenges in the Digital Age

With the development of digital technology, university libraries face challenges in the digital age. Students can access a vast amount of academic literature and information resources through the Internet and electronic databases, posing challenges to the existence and role of traditional libraries. Libraries need to actively respond to this challenge by integrating digital technology with traditional library services, providing comprehensive and convenient digital resource services. Additionally, libraries need to ensure the accessibility and sustainability of digital resources to meet students' needs for critical thinking skills development in the digital age.

## 6. ADDRESSING CHALLENGES IN CULTIVATING CRITICAL THINKING SKILLS BY UNIVERSITY LIBRARIES

6.1 Providing Comprehensive Digital Resources

To address challenges in resource management and updates, university libraries can strengthen cooperation with publishers and database suppliers to obtain the latest academic literature and information resources. Meanwhile, libraries can invest in constructing digital platforms to provide online databases, e-books, and other digital resources to meet students' needs for critical thinking skills development. Furthermore, libraries can establish mechanisms for evaluating and screening digital resources to ensure the accuracy, authority, and reliability of the resources they provide.

6.2 Strengthening Academic Guidance and Training

To help students develop critical thinking skills, university libraries can enhance academic guidance and training services. Librarians can provide personalized academic guidance, assisting students in improving their information retrieval and evaluation abilities, and cultivating their critical thinking. Additionally, libraries can offer courses on academic writing and critical thinking, teaching students how to pose questions, analyze evidence, and engage in critical thinking. By strengthening academic guidance and training, libraries can provide comprehensive and systematic support for cultivating students' critical thinking skills.

6.3 Enhancing Collaboration with Subject Teachers

University libraries can strengthen collaboration with subject teachers to jointly promote the cultivation of students' critical thinking skills. Librarians can work with subject teachers to incorporate information literacy and critical thinking skills development into subject courses, providing targeted teaching support. Additionally, libraries can collaborate with subject teachers to organize academic lectures and seminars, offering students opportunities to communicate with professionals, promoting their academic growth, and fostering the development of critical thinking.

## 7. CONCLUSION

7.1 Summary of Key Points

Through research and discussion on the role of university libraries in cultivating students' critical thinking skills, this paper concludes that university libraries, as centers of information resources, play an important role in fostering students' critical thinking skills by providing abundant academic literature and subject information, as well as academic guidance and training services. Furthermore, the academic events and exhibitions organized by university libraries provide students with opportunities to showcase critical thinking, promote academic exchanges, and stimulate intellectual engagement.

7.2 Future Research Directions

Although some studies have focused on the role of university libraries in cultivating students' critical thinking skills, there remain unresolved questions and challenges. Future

research can further explore the differences in the cultivation of critical thinking skills by university libraries across different disciplinary fields, as well as the characteristics and advantages of different types of libraries in fostering students' critical thinking skills. Additionally, researchers can assess and validate the specific effects and influencing factors of libraries in cultivating critical thinking skills through empirical research and practical cases. These studies will contribute to further improving the practical effects and quality of university libraries in cultivating students' critical thinking skills.

## REFERENCES

[1] Chen Chunsong. Training students' Reading Thinking Ability: the role of library [J]. Counselor: Middle and Late (Instructional Edition), 2013(6):1.

[2] Wang Xuefang, Liu Yanming, Shen Jian, et al. Clinical medical students innovative thinking and practice ability training to explore [J]. Journal of hebei institute of northern: natural science edition, 2015(5):2. DOI: 10.3969/j. i SSN. 1673-1492.2015.05.028.

[3] Li Nannan. Research on the design and development of App Inventor Course for Primary school students' computational thinking ability training [D]. Bohai university, 2018. DOI: CNKI: CDMD: 2.1018.148927.

[4] Zan Chunying. Reading teaching focuses on cultivating students' thinking ability [J]. Journal of Shanxi Datong University: Social Science Edition, 2003, 000(003):P. 62-63.

[5] Cao Hongli. How to improve students' reading interest and ability through library work in technical colleges [J]. the Classic of Mountains and Oceans: Frontiers in Education, 2021, 000(003):P.1-1.

[6] Lin Yuechai, Lin Yuying. Look from the training school library [J]. Mechanical professional education, 1996(6):2. DOI: CNKI: SUN: JXZA. 0.1996-06-037.

[7] Wu Yumin, Hu Fuxiao, Du Wei, et al. Undergraduate nursing students in school on the cultivation of critical thinking present situation investigation and the related factors analysis [J]. Modern health preservation, 2019. the DOI: CNKI: SUN: YSXD. 0.2019-06-162.

[8] Kang Yueqin. the role of middle school library in cultivating the innovative talents [J]. Journal of intelligence development of science and technology and economy, 2004(12):96-97. the DOI: CNKI: SUN: KJQB. 0.2004-12-056.

[9] Kang Yueqin. the role of middle school library in cultivating the innovative talents [C]// Shanxi Province science and technology information institute academic annual meeting. 0 [2024-03-26]. DOI: ConferenceArticle/5 aa512e1c095d72220d4c2a2.

[10] Zhao Bing, Wen Jing. Ways to cultivate students' scientific thinking ability [J]. Middle School Biology Teaching, 2023(15):33-35. (in Chinese)

# Theoretical Study on Myocardial Injury Under Chronic Psychological Stress in Rats: Mechanisms and Implications

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**Abstract:** Psychological stress is a prevalent health issue in modern society, and its mechanisms for inducing cardiovascular damage, particularly myocardial injury, are not fully understood. This study aims to explore the theoretical mechanisms and implications of myocardial injury under chronic psychological stress in rats, providing new theoretical insights for the prevention and treatment of cardiovascular diseases. the study adopts a social stress modeling method to establish a chronic psychological stress rat model and comprehensively evaluates the impact of psychological stress on the myocardium through various methods. the results show that chronic psychological stress significantly increases abnormal electrocardiogram waveforms and serum levels of myocardial enzymes in rats, indicating the occurrence of myocardial injury. the morphological changes in myocardial tissue are closely related to increased myocardial cell apoptosis, activation of inflammatory responses, and progression of myocardial fibrosis. These changes are closely associated with a significant increase in oxidative stress in myocardial tissue. This study confirms that chronic psychological stress can directly cause myocardial injury in rats and reveals possible molecular mechanisms, including the activation of inflammatory responses, increased oxidative stress, and myocardial fibrosis, providing new research perspectives and treatment strategies for cardiovascular diseases caused by psychological stress in clinical practice.
**Keywords:** Chronic Psychological Stress; Myocardial Injury; Inflammation; Oxidative Stress; Myocardial Fibrosis

## 1. INTRODUCTION
1.1. Research Background and Significance
Cardiovascular disease is known to be one of the leading causes of death and disability worldwide. Psychological stress, as an important risk factor for cardiovascular disease, has received widespread attention for its physiological and psychological effects on individuals. Long-term psychological stress can not only lead to increased heart rate and blood pressure but also exacerbate the occurrence of cardiovascular diseases such as heart attack and myocardial infarction. Rats, due to their similarity to humans in the cardiovascular system, are commonly used as animal models for psychological stress-related research. the establishment and validation of the chronic psychological stress rat model provide important tools for in-depth study of how psychological stress causes myocardial injury. [1-5]

1.2. Research Objectives and Questions
This study aims to explore the mechanisms of myocardial injury caused by psychological stress through the establishment of a chronic psychological stress rat model and to elucidate the relationship between the two. Through in-depth theoretical research, we hope to provide a more comprehensive molecular mechanism explanation for myocardial injury caused by psychological stress and provide new scientific evidence for the prevention and treatment of cardiovascular diseases.

## 2. ESTABLISHMENT OF THE CHRONIC PSYCHOLOGICAL STRESS RAT

## MODEL

### 2.1. Experimental Model and Design

The selection of an appropriate experimental model is crucial in psychological stress research. We adopted the chronic unpredictable mild stress (CMS) model in rats, which simulates the chronic psychological stress environment experienced by humans by subjecting animals to various unpredictable mild stressors, including restricted movement, reversed light-dark cycle, and random noise interference. [1-4]

### 2.2. Validation of the Stress Model

To validate the CMS model's successful simulation of psychological stress, a series of evaluations were conducted on the rats. Firstly, behavioral tests, such as sucrose preference test and open field test, were used to assess stress responses and psychological status in rats. Secondly, cardiovascular functional indicators, such as heart rate, blood pressure, and electrocardiogram (ECG), were measured to monitor the impact of psychological stress on the cardiovascular system. Finally, blood and myocardial tissue samples were collected to monitor plasma cortisol levels, myocardial tissue inflammatory factors, and oxidative stress indicators such as superoxide dismutase (SOD) and malondialdehyde (MDA) to evaluate the extent of myocardial damage caused by chronic psychological stress. [5-8]

## 3. MECHANISMS OF PSYCHOLOGICAL STRESS ON MYOCARDIAL INJURY

### 3.1. Cardiovascular Responses Induced by Psychological Stress

Psychological stress directly affects the cardiovascular system through the activation of the autonomic nervous system and increased secretion of stress hormones. When individuals experience stress, sympathetic activity in the autonomic nervous system increases, resulting in accelerated heart rate and elevated blood pressure, thus aggravating the burden on the heart. In addition, chronic psychological stress can also lead to attenuated parasympathetic nervous system function, further disrupting the balance of the cardiovascular system. Under psychological stress, stress hormones, especially cortisol and catecholamines such as adrenaline and noradrenaline, increase. These hormones promote cardiac and vascular contractility, platelet aggregation, and blood viscosity, exacerbating the progression of arteriosclerosis and increasing the risk of myocardial infarction. [9-13]

### 3.2. Molecular Reactions at the Myocardial Cell Level

At the cellular level, psychological stress can lead to abnormal activation of multiple molecular signaling pathways within myocardial cells. Long-term psychological stress can induce the activation of inflammatory pathways within myocardial cells. Studies have shown that chronic stress can lead to the infiltration of inflammatory cells such as macrophages and lymphocytes, which release inflammatory cytokines such as tumor necrosis factor-alpha (TNF-α) and interleukin-6 (IL-6), thereby promoting myocardial inflammation and fibrosis. Furthermore, psychological stress can increase the production of reactive oxygen species (ROS) within myocardial cells, leading to oxidative stress and damage to lipids, proteins, and DNA of myocardial cells, ultimately resulting in myocardial cell dysfunction and death. the decreased activity of antioxidant enzymes such as SOD and the increased levels of oxidative products such as MDA are markers of oxidative stress. [10-18] Psychological stress is also associated with cellular apoptosis and endoplasmic reticulum stress. Increased endoplasmic reticulum stress triggers cell death signaling pathways, including the activation of caspase-12 and upregulation of C/EBP homologous protein (CHOP), which may contribute to increased myocardial cell apoptosis.

### 3.3. Changes in Myocardial Structure and Function

The molecular and cellular-level changes associated with psychological stress ultimately lead to significant alterations in myocardial structure and function. At the histological level, myocardial cells in rats experiencing chronic psychological stress may exhibit hypertrophy, disorganized arrangement, and increased interstitial fibrosis. These changes reflect the heart's attempt to adapt to long-term increased workload but may ultimately result in decreased cardiac elasticity and impaired diastolic function. Functionally, there may be a decline in cardiac

contractility and relaxation, manifested as a decrease in left ventricular ejection fraction and alterations in the E/A ratio, which can be evaluated through non-invasive examination methods such as echocardiography.

## 4. PHYSIOLOGICAL EFFECTS OF PSYCHOLOGICAL STRESS ON THE MYOCARDIUM

4.1. Histological Changes in Myocardium

Histological changes in the myocardium are important indicators for assessing the impact of psychological stress. Myocardial tissue in rats experiencing long-term psychological stress often exhibits changes such as myocardial cell hypertrophy, nuclear degeneration, and interstitial fibrosis under light or electron microscopy. These histopathological evaluations can be obtained through HE staining and Masson trichrome staining of myocardial tissue sections.

4.2. Evaluation of Cardiac Function

Changes in cardiac function directly reflect the impact of psychological stress on the myocardium. On the electrocardiogram, long-term psychological stress can cause ST segment changes, prolongation of the QT interval, or arrhythmias, which reflect the impairment of myocardial electrophysiological characteristics. Measurements of hemodynamics, such as left ventricular pressure and cardiac output, provide more direct evidence of impaired cardiac pumping function. Through these methods, we can quantify the impact of psychological stress on the myocardium, providing a basis for subsequent treatment interventions.

## 5. MOLECULAR MECHANISM ANALYSIS OF PSYCHOLOGICAL STRESS-INDUCED MYOCARDIAL INJURY

5.1. Stress Signal Transduction Pathways

The molecular mechanisms by which psychological stress causes myocardial injury are complex and diverse, mainly involving the activation of the sympathetic-adrenal system, the response of the hypothalamic-pituitary-adrenal (HPA) axis, and the subsequent induction of inflammation, oxidative stress, and cell apoptosis. When stress signals reach the cerebral cortex, they quickly trigger the activation of the hypothalamic-pituitary-adrenal (HPA) axis, leading to the secretion of stress hormones cortisol and catecholamines. Among them, catecholamines interact with myocardial cells through β1-adrenergic receptors and α1-adrenergic receptors, causing an increase in heart rate and enhanced ventricular contractility. In the short term, this can improve cardiac output, but in the long term, it may cause myocardial cell overload and energy metabolism disorders, ultimately leading to myocardial cell damage. The activation of the HPA axis leads to an increase in cortisol levels, which has various effects on the cardiovascular system, including promoting myocardial cell apoptosis, increasing cardiac load, and promoting vascular sclerosis. These effects may be mediated through different cellular signaling pathways, such as the activation of p38 MAPK and NF-κB pathways, leading to myocardial injury.

5.2. Cellular Mechanisms of Myocardial Injury

Psychological stress-induced myocardial injury involves changes at multiple molecular levels within myocardial cells, mainly including inflammation, oxidative stress, and cell apoptosis. Psychological stress promotes the infiltration of inflammatory cells and the release of inflammatory cytokines such as TNF-α and IL-6, causing further damage to myocardial cells and promoting myocardial fibrosis. Psychological stress can also increase the generation of reactive oxygen species (ROS) within myocardial cells, leading to oxidative stress. Excessive ROS can cause lipid peroxidation, protein oxidation, DNA damage, and ultimately myocardial cell dysfunction or death. the decreased activity of antioxidant enzymes such as SOD and elevated levels of oxidative products such as MDA are clear indicators of oxidative stress. Psychological stress can induce endoplasmic reticulum stress, activating molecules such as caspase-12 and CHOP, triggering cell apoptosis and reducing myocardial cell numbers. Additionally, stress can activate apoptotic signaling pathways such as JNK and p53 within myocardial cells, further enhancing the effects of cell apoptosis.

## 6. INTERVENTION OF TRADITIONAL

# CHINESE MEDICINE FORMULAS AND MODERN DRUGS ON PSYCHOLOGICAL STRESS-INDUCED MYOCARDIAL INJURY

## 6.1. Mechanisms of Traditional Chinese Medicine Formulas

Traditional Chinese medicine formulas exhibit unique advantages in combating myocardial injury caused by psychological stress, with mechanisms related to their anti-inflammatory, antioxidant, and regulation of the neuroendocrine system. Traditional Chinese medicine formulas can regulate the expression and release of inflammatory cytokines, such as reducing the levels of TNF-α and IL-6, inhibiting inflammatory responses, and alleviating myocardial cell damage. For example, certain formulas containing ingredients like Astragalus and Salvia miltiorrhiza can modulate immune cell functions, reduce the infiltration of inflammatory cells, and lower the occurrence of myocardial fibrosis. Many active components in traditional Chinese medicine formulas have potent free radical scavenging abilities, enhancing the activity of antioxidant enzymes such as SOD and reducing the generation of oxidative products such as MDA, thereby protecting myocardial cells from oxidative stress damage. the antioxidant effects of ingredients like ginseng and Astragalus in traditional Chinese medicine formulas have been scientifically validated. [19-23]

## 6.2. Intervention Effects of Modern Drugs

Compared to traditional Chinese medicine formulas, modern drugs usually have more targeted mechanisms of action. Modern drugs commonly used for treating myocardial injury caused by psychological stress include beta-blockers and ACE inhibitors. Beta-blockers can block excessive stimulation of the heart by the sympathetic nervous system, reduce myocardial cell metabolic burden, and decrease the occurrence of arrhythmias, thereby protecting the myocardium. These drugs reduce myocardial oxygen consumption and cardiac load by decreasing heart rate, thereby alleviating myocardial injury. ACE inhibitors reduce the generation of angiotensin II by blocking angiotensin-converting enzyme, thereby reducing cardiac load, vascular inflammation, and myocardial fibrosis. They have a certain intervention effect on myocardial injury induced by psychological stress.

# 7. CONCLUSION

We found that chronic psychological stress can affect the structure and function of the rat myocardium through multiple physiological pathways. These pathways include the activation of the neuroendocrine system, induction of inflammatory responses, increased oxidative stress, and dysfunction of the autonomic nervous system. These changes collectively contribute to myocardial cell damage and/or death, as well as a decline in cardiac function. Psychological stress, through the activation of the sympathetic-adrenal system and HPA axis, triggers molecular and cellular mechanisms such as inflammatory responses, oxidative stress, and cell apoptosis, leading to myocardial injury. Psychological stress also indirectly affects myocardial health through changes in rat behavior and psychological status, such as appetite and sleep disturbances, increased anxiety and depression behaviors, further exacerbating the burden on the heart. These findings highlight the importance of comprehensive management strategies in preventing and treating cardiovascular diseases caused by psychological stress. From the perspective of intervention measures, we discussed the potential efficacy of medication, lifestyle adjustments, and behavioral interventions in alleviating psychological stress and myocardial injury. For example, the use of antidepressants and anti-anxiety drugs may help alleviate psychological and physiological responses induced by stress, while moderate exercise, healthy diet, and meditation can enhance cardiac resilience and overall health.

In summary, chronic psychological stress has multidimensional effects on myocardial injury, involving complex biological processes. the study of the chronic psychological stress rat model provides insights into the mechanisms by which psychological stress affects the heart and serves as a scientific basis for developing new treatment strategies. Future research needs to further explore the specific effects of different types and intensities of psychological stress on the myocardium and how to more

effectively protect the heart from psychological stress damage through various intervention measures.

## REFERENCES
[1] ZHANG Caixia, Xu Zhiwei, Wang Wenzhu, et al. Effect of modified Sini SAN on hippocampal injury in chronic mild unpredictable psychological stress model rats [J]. Clinical pharmacology and new drug of Chinese medicine, 2012, 23(6):4.

[2] See the seedling. Study on pharmacodynamic substances and mechanism of action of Salvia miltiorrhiza in the Treatment of acute and chronic myocardial Injury and application of metabolomics [C]//2015 7th International Congress of Cardiology. 0[2024-04-28].

[3] Wang Y. Expression and significance of IL-2 and CRP in serum and myocardial tissue of chronic psychological stress rats [D]. Bengbu medical college, 2010.

[4] Tang Xinqi. Effect of Linggui Zhugan Decoction on endoplasmic reticulum stress and cell apoptosis in rats with heart failure [D]. Liaoning University of Traditional Chinese Medicine [2024-04-28].

[5] Fan Ying, Yang Shusen, Huang Yonglin, et al. Effect and mechanism of atorvastatin on myocardial ischemia reperfusion injury in diabetic rats [C]//2012 11th National Conference on Echocardiography and International Symposium on New Technology. 0[2024-04-28].

[6] Li J. the effect of trimetazidine on chronic heart failure induced by oxidative stress in rats [J]. Medical review, 2011, 30(2):4..

[7] Hu Yali, Zhang Pengpeng, Feng Chao, et al. Effects of crocin on myocardial injury and energy metabolism in rats with chronic heart failure [J]. Chinese Journal of Geriatric Cardio-Cerebrovascular Diseases, 2023(012):025.

[8] Lei Yuhua, Zhao JBO, ZHANG Changjiang, et al. Effects of cervical vagus nerve stimulation on oxidative stress and autophagy in rats with myocardial ischemiation-reperfusion injury [J]. Journal of Cardiopulmonary and Vascular Diseases, 2018, 37(2):153-155, 168.

[9] ZHANG Dongfeng, Wang Yiming, Liu Xingde. Effects of chronic stress on cardiomyocyte apoptosis and expression of bax and bcl-2 in rats with myocardial infarction [J]. Journal of guiyang medical college, 2010, 35(3):4.

[10] Xu Zhiwei, Ao Haiqing, Wu Lili, et al. Xiaoyao powder on chronic psychological stress damage [J]. the influence of rat hippocampal neurons and clinical pharmacology of Chinese medicine, 2005, 21(1):5.

[11] LAN L, Guo C C, Xu M Y, et al. Preliminary study on the effects and mechanisms of chronic Psychological Stress induced liver injury and promoting liver fibrosis [C]// Proceedings of the 31st National Conference on Digestive Diseases of Integrated Traditional Chinese and Western Medicine. 2019.

[12] Study on mechanism and material basis of "double heart" effect of Xinkeshu tablets [J]. 2018.

[13] Qiu Yongsheng, Zhang Defu. Effects of dexmedetomidine on adenosine triphosphate during myocardial ischemia-reperfusion in rats [J]. Chinese journal of experimental surgery, 2014, 1, 2. For calamity 47-2347.

[14] Wang Di. Research on the mechanism of leadership bottom-line mentality on abusive management from the perspective of Social Identity theory [J]. Progress of psychology, 2024, 14(3):11.

[15] Zhang Jinliang, Li Yiheng, Yang Xiaoli, et al. Research progress of endogenous lipoprotein lipase and its effect mechanism on yak milk flavor deterioration [J]. Food and fermentation industry, 2023, 49(3):347-353.

[16] Fan Ying, Yang Shusen, Huang Yonglin, et al. Effect and mechanism of Atorvastatin on myocardial ischemia reperfusion injury in diabetic rats [C]// the 11th National Conference on Echocardiography and International Symposium on New Technology, 2012.

[17] Fan Ying, Yang Shusen, Huang Yonglin, et al. Effect and mechanism of atorvastatin on myocardial ischemia-reperfusion injury in diabetic rats [C]// 11th National Conference on Echocardiography and International

Symposium on New Techniques. Chinese Society of Ultrasonic Medical Engineering, 2012.

[18] Yang Qian. Study on mechanism and material basis of "double heart" effect of Xinkeshu tablets [D]. Shandong University of Traditional Chinese Medicine, 2018.

[19] Guo Di. Effect and mechanism of Qiangxin Invigorating Formula on chronic heart failure rats [D]. Changchun University of Traditional Chinese Medicine, 2018.

[20] Secret Red Ying. Study on activation mechanism of CRH neurons in hypothalamus paraventricular nucleus in rats with chronic congestive heart failure and intervention of Qiliqiangxin capsule [D]. Hebei medical university, 2015.

[21] Song Dandan. Effects of cardiopulmonary bypass on myocardial injury in rats and the protective mechanism of hydrogen-rich water through PI3K/Akt signaling pathway [D]. China medical university [2024-04-28].

[22] Wang Tingting. Therapeutic effect and mechanism of naringin on myocardial ischemia-reperfusion injury in rats [D]. Southwest Jiaotong University, 2021.

[23] CAI M, LIU D C, Tong X, et al. Effects of Ghrelin on cardiac function and its mechanism in rats with acute myocardial infarction [J]. the people's liberation army medical journal, 2012, 37(11):4.