

STRATEGIES FOR OPTIMIZING TEACHING QUALITY OF MEDICAL STUDENTS IN KUNMING MEDICAL UNIVERSITY

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Abstract: This study aimed to explore the main factors affecting the quality of classroom teaching among medical students at Kunming Medical University and propose improvement strategies. Using the questionnaire survey method, samples were randomly selected from each grade, 220 questionnaires were distributed, and 215 valid questionnaires were collected, with a recovery rate of 97.73%. The questionnaire covers learning motivation, learning methods, teaching methods and means, teaching content and other dimensions. Through descriptive statistical analysis and correlation analysis, the results show that the four dimensions of learning motivation, learning methods, teaching methods and means, and teaching content have a significant impact on the teaching quality. Students with high learning motivation tend to adopt diversified and active learning methods. Rich teaching methods have an important influence on the understanding of teaching content, and diversified teaching methods can promote active learning. Based on this, this paper puts forward suggestions to stimulate students' learning motivation, enrich teaching content, improve teaching means and methods, and strengthen teacher training, which provides scientific basis and practical guidance for improving the quality of classroom teaching.

Keywords: Classroom Teaching Quality, Learning Motivation, Teaching Method, Medical Education, Teaching Improvement

Introduction

With the advancement of global medical education reform, improving the quality of classroom teaching for medical students has become an important issue for major medical colleges and universities. The rapid development of higher education in China and the increasing demand for high-quality medical talents have prompted medical schools to improve the quality of teaching. At present, there are many problems, such as single teaching method, insufficient interaction between teachers and students, and limited teaching resources.

This study takes Kunming Medical University as an example to explore ways to improve the quality of classroom teaching. Although Kunming Medical University has rich resources and good

atmosphere, there is still insufficient teaching. Through investigating and analyzing the teaching status of medical students in this school, effective strategies and suggestions are put forward.

Under the background of "double first-class" construction, it is an important task of universities to improve the quality of education and cultivate first-class talents. Medical schools should pay attention to student-centered, and cultivate clinical practice ability and innovative thinking. Traditional teaching methods can no longer meet the needs, and new methods such as PBL and CBL can effectively enhance the interest and effect of learning.

Improving the quality of classroom teaching is an inevitable choice to standard international standards and cultivate international competitive medical talents. Introduce advanced teaching concepts and methods, narrow the gap with the international first-class medical schools, and improve the internationalization level of medical education. The development of information technology provides new opportunities to carry out mixed teaching through "Internet +" to enrich the content, improve flexibility and interactivity, and improve the quality of teaching.

Research Objectives

The objectives of this study are to:

- 1) Assess the overall level of classroom teaching quality of medical students in Kunming Medical University.
- 2) Analyze the key factors affecting the quality of classroom teaching, including teaching methods, teaching content, students' learning motivation and learning methods, etc.
- 3) Collect and sort out students' feedback on the existing teaching methods and content and discuss how to combine modern educational technology and innovative teaching methods to improve the learning effect of medical students.
- 4) Put forward the scientific basis and practical guidance for improving the quality of classroom teaching and provide the scientific basis and practical guidance for improving the quality of classroom teaching for Kunming Medical University and other medical schools.

Literature Review

Domestic research status

Domestic research on classroom teaching quality mainly focuses on the improvement of teaching methods, the optimization of teaching resources and the construction of teaching evaluation system. In recent years, as the country attaches great importance to the quality of higher education, many studies have begun to focus on how to improve the quality of classroom teaching in universities. For example, Wei Jianguo (2017) pointed out in his research that the key to university classroom teaching reform lies in optimizing teaching methods and improving teachers' teaching level. In addition,

some studies also discussed the application of modern information technology in teaching, and believed that the introduction of information technology can enrich the teaching content and improve classroom interaction and student participation.

In the field of medical education, many scholars focus on the medical curriculum setting, clinical practice teaching, and the cultivation of students' comprehensive ability. For example, Liu (2016) and others proposed that the clinical skills and practical ability of medical students can be effectively improved by strengthening clinical practice and simulation teaching. In addition, some studies point out that medical education needs to pay attention to the cultivation of students' humanistic quality, and improve the professional ethics and humanistic care ability of medical students through the adjustment of curriculum setting and teaching content.

Zhang and Shi (2018) found that Chinese college students show strong subjectivity in learning, which should be fully considered in the improvement of classroom teaching quality. In addition, Yang (2001) proposed that the popularization and diversification of higher education requires a more detailed guarantee and evaluation of teaching quality. Chen (2017) believed that student-centered teaching methods can significantly improve classroom participation and learning results.

Higher education research also points out that the learning motivation and learning attitude of college students directly affect their classroom performance and learning effect. Li (2003) and Yu (2005) respectively emphasized the connotation and extension of higher education quality evaluation and believed that the systematic mechanism of teaching quality evaluation is an important means to improve the quality of teaching.

Foreign Research Status Quo

Foreign research on classroom teaching quality is relatively mature, and the research perspectives and methods are more diversified. Many studies have focused on teaching method innovation and student learning effect evaluation. Arthur (2018) et al. proposed in their research that by introducing innovative teaching methods such as problem-based learning (PBL) and case teaching (CBL), students' learning interest and learning effect can be significantly improved.

In the field of medical education, foreign research mainly focuses on the application of the competency-based education (Competency-Based Education, CBE) model. For example, medical schools in the United States, Canada and other countries generally adopt the CBE model, which ensures that medical students have the necessary clinical ability and professional qualities upon graduation through strict clinical evaluation standards and feedback mechanisms. In addition, some studies have discussed how to improve students' autonomous learning ability and resource utilization efficiency through information technology and network resources.

John (1996) emphasized that teaching design must be closely combined with students' learning activities and help students to continuously improve their learning strategies through systematic

feedback and evaluation. Harden (2002) pointed out in his research on medical education that modern medical education needs the comprehensive use of various teaching methods, including simulation teaching, clinical practice and online learning resources, to comprehensively improve the comprehensive ability of medical students.

Theoretical basis

1) Baroque theory of teaching

The Baroque teaching theory is famous for its complexity and diversity, emphasizing the richness and multi-level of the teaching content, and emphasizing the extensive connection and multi-dimensional presentation of knowledge. This theory originated from the Baroque art, and its core concept is to stimulate students' interest in learning and creativity through rich and colorful teaching content and diversified teaching means. In teaching practice, Baroque teaching theory advocates that classroom teaching is a dynamic and interesting learning environment, and to help students acquire knowledge in a happy atmosphere through multimedia, interactive teaching, case analysis and other ways.

This theory emphasizes that teachers should not only impart knowledge, but also pay attention to cultivating students' comprehensive ability and critical thinking in the teaching process. Teachers need to design rich teaching activities, and guide students to actively participate in the learning process through problem-oriented, task-driven and other ways. Baroque teaching theory is especially applicable to the field of medical education, because medical knowledge itself is complex and systematic. Through diversified teaching methods, it can help students to better understand and master medical knowledge and improve the learning effect.

2) Teaching design theory

Teaching design theory is a systematic teaching planning method, which emphasizes improving the effectiveness and efficiency of teaching through scientific design process. The theory of teaching design originated in the mid-20th century and is constantly improved with the development of educational technology. Its core concept is to decompose teaching activities into clear objectives, strategies and evaluation links, and ensure the realization of teaching objectives through the systematic design and implementation. Common instructional design models include ADDIE models (analysis, design, development, implementation, evaluation) and Dick & Carey models, etc. In medical education, the application of teaching design theory is particularly important because medical knowledge is complex and requires a high degree of practical competence. Through systematic teaching design, teaching objectives can be defined, appropriate teaching strategies can be selected, and various forms of evaluation to ensure that students master the required knowledge and skills. The teaching design theory also emphasizes the feedback mechanism, through continuous evaluation and feedback, timely adjustment of teaching content and methods, improve the teaching quality.

Methodology

This study aims to understand the evaluation and feedback of Medical University questionnaire. To ensure the reliability and validity of the data, this study used random sampling, designed a structured questionnaire, and conducted a reliability and validity analysis. The following are the specific methods and procedures of this study.

This study used random sampling from medical students in each grade of Kunming Medical University. Medical University total of 220 questionnaires were distributed and 215 valid questionnaires were recovered, with a recovery rate of 97.73%. This high recovery rate ensures the representativeness and reliability of the data and provides a solid foundation for the subsequent analysis.

The questionnaire design is an important part of this study. The questionnaire includes two parts: the first part is basic personal information, covering basic information of gender, grade and major, and the second part is Likert scale, which is used to evaluate students' various dimensions of classroom teaching quality, including learning motivation, learning methods, teaching methods, teaching methods and teaching content, etc. Questions under each dimension were scored using a five-point scale (1 to disagree and 5 agree). The questionnaire design has been modified by several rounds and expert review to ensure the clarity and scientific of the questions.

To verify the reliability of the questionnaire, the Cronbach's Alpha coefficient was used for the reliability analysis in this study. The Cronbach's Alpha coefficient is a commonly used reliability indicator used to assess the internal consistency of the scale. A higher the coefficient value, the better the internal consistency of the scale. In general, the Cronbach's Alpha coefficient above 0.7 indicates a good internal consistency of the scale.

Table 1: Shows The Reliability Analysis

	Clone Bach of Alpha	number of terms
academic motivation	0.847	5
learning style	0.838	5
Teaching methods and means	0.895	5
content of courses	0.87	5
amount to	0.945	20

From Table 1, the Cronbach's Alpha coefficient of all dimensions is above 0.8, and the Cronbach's Alpha coefficient of the overall scale is 0.945. This indicates that the questionnaire has high internal consistency and reliability and can be effectively used for data collection and analysis.

To verify the validity of the questionnaire, KMO (Kaiser-Meyer-Olkin) sampling suitability and Bartlett sphericity test were used for validity analysis.

Table 2: KMO and Bartlett tests

Number of KMO sampling suitability quantities.		.925
Bartlett sphericity test	Approximate chi square	3755.705
	free degree	190
	conspicuousness	.000

Table 2 shows that the KMO value is 0.925, which is much greater than 0.7, indicating that the data are suitable for factor analysis. The significance level of the Bartlett sphericity test was 0.000, which was much less than 0.05, indicating a significant correlation between the variables.

Results

1. Descriptive statistical analysis

In this study, descriptive statistical analysis of 215 valid questionnaires was used to understand the basic information of medical students and their evaluation of the quality of classroom teaching. Below is a statistical outcome analysis of the frequency and percentage of the primary variables.

In terms of gender, 55.3% were male students and 44.7% of female students. This indicates that slightly more boys than girls in the sample, but a more balanced sex ratio. In terms of grade distribution, the proportion of sophomores is the highest, accounting for 32.1%, followed by freshmen, accounting for 26.0%, junior students and seniors account for 19.1% and 20.5% respectively, and postgraduate students account for 2.3%. This distribution reflects the sample of students covering different grades, especially a higher proportion of undergraduates. In terms of classroom performance attention, 28.8% of the students said that the teacher never pays attention to their classroom performance and reminds them, 57.2% said that the teacher occasionally pays attention to and reminds them, and 14.0% said that the teacher often pays attention to and reminds them. This indicates that most students think that the teacher pays more moderate attention to the classroom performance, but some students still feel that the teacher pays less or more attention.

In terms of specialty distribution, students majoring in clinical medicine accounted for the highest proportion of 39.5%, followed by pharmacy, 27.9%, and basic medicine and public health, 19.5% and 13.0%, respectively. This result showed higher engagement of students in clinical medicine and pharmacy, reflecting the concern about the quality of teaching of students in these majors. In terms of self-study time, 12.6% of students spent less than 5 hours, 31.6% 5-10 hours, 28.4% 10-15 hours, 7.4% 15-20 hours and 20.0% more than 20 hours. Most of the students' weekly self-study time is concentrated between 5-15 hours, showing that students spend more time in extracurricular study, but some students still have less or more self-study time.

In terms of extracurricular learning methods, 16.3% of students study through reading textbooks, 24.2% attend academic lectures, 43.3% use online learning resources (such as MOOCs),

13.5% study through group discussions, and 2.8% study through experimental and practical operations. The results show that online learning resources and academic lectures are the main extracurricular learning methods for students, followed by traditional textbook reading and group discussion, with relatively few experimental and practical practices.

Correlation analysis was performed in this study. The purpose of the correlation analysis was to determine the strength and direction of the linear relationships between the variables. In this study, the correlation between the four dimensions of learning motivation, learning style, teaching method and means, and teaching content was mainly analyzed.

Table 3: Descriptive statistical analysis

variable	option	frequency	percentage
1. Your gender	man	119	55.3
	woman	96	44.7
2. Your grade is	freshman	56	26
	sophomore	69	32.1
	junior	41	19.1
	senior	44	20.5
	Master	5	2.3
3. Generally, in class, will the teacher pay attention to your class performance (being late and leaving early, sleeping, playing with your mobile phone, chatting, etc.) and remind you?	married	62	28.8
	Occasionally	123	57.2
	Often will	30	14
4. Your major is	preclinical medicine	42	19.5
	clinical medicine	85	39.5
	pharmacy	60	27.9
	public health	28	13
5. Your average self-study time per week (excluding class time)	Less than 5 hours	27	12.6
	5-10 Hours	68	31.6
	For about 10-15 hours	61	28.4
	Over the course of 15-20 hours	16	7.4
	More than 20 hours	43	20
6. How do you usually study after class?	Read textbooks	35	16.3
	Attend academic lectures	52	24.2
	State-owned enterprise personnel	93	43.3
	panel discussion	29	13.5
	Experimental and practical manipulation	6	2.8

Table 4 shows significant positive associations between all dimensions, suggesting a tight association between these variables. Specifically, the correlation coefficient between learning motivation and learning style was 0.837, indicating a strong positive correlation between the two, which means that the higher the learning motivation, the more active and diversified the learning style adopted

by students. Similarly, the correlation coefficient between learning methods and teaching methods was 0.678, indicating a significant positive correlation between students' learning methods and teaching methods adopted by teachers, which indicates that diverse and effective teaching methods can promote students to adopt more active learning methods.

Table 4: Correlations

	academic motivation	learning style	Teaching methods and means	content of courses
academic motivation	1	.837**	.540**	.535**
learning style	.837**	1	.678**	.668**
Teaching methods and means	.540**	.678**	1	.860**
content of courses	.535**	.668**	.860**	1

** At the 0.01 level (two-tailed), the correlation was significant.

The correlation coefficient between teaching methods and means and teaching content was 0.860, the highest of all the correlation coefficient, indicating that there is a very strong positive correlation between teaching methods and means and teaching content. This means that the various ways and means adopted by teachers in the teaching process have an important influence on the presentation and understanding of the teaching content. High-quality teaching content and diversified teaching methods can significantly improve students' learning effect. The correlation coefficient between learning motivation and teaching methods and means was 0.540, and that between learning motivation and teaching content was 0.535, indicating that there was also a significant positive correlation between learning motivation and these two dimensions. This indicates that the students' learning motivation is not only influenced by the learning style, but also closely related to the teachers' teaching style and teaching content.

Discussion

In this study, the questionnaire survey of medical students in Kunming Medical University explored the main factors affecting the quality of classroom teaching and proposed corresponding improvement strategies. It is found that the four dimensions of learning motivation, learning methods, teaching methods and means, and teaching content have a significant impact on the teaching quality. Students with high learning motivation more often tend to adopt diverse and active learning styles. The results of the questionnaire showed that the correlation coefficient between learning motivation and learning style was 0.837, indicating a strong positive correlation between the two. The correlation coefficient between teaching methods and means and teaching content is 0.860, showing the importance of the diversification of teaching means and the scientific and systematic teaching content to the improvement of teaching quality. The correlation coefficient between teaching methods and means and

learning methods was 0.678, indicating that the diversified teaching methods adopted by teachers can significantly promote students to adopt active learning methods. The results show that improving the quality of classroom teaching requires comprehensively considering students' learning motivation, learning style and teachers' teaching methods and teaching content. Effective teaching strategies should work together in these four aspects to achieve the best teaching effect.

The finding that highly motivated students adopt more active learning styles suggests that stimulating their learning motivation is crucial to improve teaching outcomes. Schools and teachers should enhance students' intrinsic learning motivation by setting clear learning goals and providing incentives. The strong correlation between teaching methods and means and teaching content shows that a rich variety of teaching methods can effectively deliver complex teaching content. In the teaching process, teachers should adopt multimedia, interactive teaching, case analysis and other diversified teaching methods to make the teaching content easier to understand and master. The study found that there is a significant positive relationship between teaching methods and students' learning methods, which shows that teachers should constantly improve their teaching methods and adopt more flexible and interactive teaching methods to promote students' interest and participation in learning. Specific measures include the introduction of innovative teaching methods such as problem-based learning (PBL) and case teaching (CBL). In general, improving the teaching quality needs to start from many aspects, including stimulating students' learning motivation, enriching teaching content, improving teaching methods and optimizing teaching methods. Schools should strengthen teacher training, improve teachers' teaching ability and level, and provide more learning resources and support for students, so as to comprehensively improve the quality of teaching.

Conclusions

Based on the results of this study, the following conclusion are made to improve the quality of classroom teaching in Kunming Medical University. First of all, schools and teachers should pay attention to stimulating students' learning motivation, and enhance students' internal motivation through clear learning goals and appropriate incentive measures. At the same time, teachers should adopt diversified teaching methods, using multimedia, interactive teaching and case analysis methods, to make the teaching content more vivid and interesting, and enhance students' interest in learning. Further, improving teaching methods is also the key to improving teaching quality. It is suggested that teachers introduce innovative teaching methods such as problem-based learning (PBL) and case teaching (CBL) to promote students' active learning and deep thinking. Schools should strengthen teacher training, improve their teaching ability and level, and provide more learning resources and support for students. In addition, a systematic teaching evaluation and feedback mechanism should be established to timely understand the needs of students and the problems in teaching, and make targeted improvements to

ensure the continuous improvement of teaching quality.

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