

Expert Consultation questionnaire for the indicator system of SoTL ability for medical teachers (First round)

Dear Expert:

Thank you for taking the time to review the content of this expert consultation!

The third generation of medical education reform and the impact of a new round of scientific and technological revolutions and industrial transformations, as well as the new health risks brought by the development of modern society, have all put forward high-quality demands for health. In response, China has proposed the construction of "New Medical Science" with the aim of cultivating high-quality innovative medical talents and promoting the "Healthy China" strategy. High-quality education relies on high-quality, high-level teaching staff.

The scholarship of teaching and learning (SoTL) ability is the core ability of university teachers' professional development and the golden rule for ensuring and improving the quality of university teaching. SoTL means teacher treating teaching as a scholarship that requires systematic research, therefore they continuously reflect on their entire teaching process, discover problems, and use scientific methods to carry out action research. The results are then outputted, transformed, and applied to continuously improve and innovate teaching practices, enhance teaching effectiveness and quality, and ultimately improve the quality of talent cultivation.

In the context of "New Medical Science", establishing a scientific, objective, and comprehensive indicator system for the SoTL ability of medical college teachers, carrying out the construction of SoTL faculty team, and thereby improving the quality of medical education, has important theoretical and practical significance for cultivating high-quality innovative medical talents.

Based on previous literature review and interpretation of national policies, this research team has conducted in-depth interviews with 20 front-line teachers through qualitative interviews, analyzed and extracted 5 primary indicators, 21 secondary indicators, and 46 tertiary indicators, preliminarily constructing an index system for the composition of the SoTL ability for medical college teachers. We sincerely invite you, as a consulting expert, to provide valuable opinions on the content of this indicator system.

We promise that all members of the research team will keep all the information and content collected in this survey strictly confidential and use it only for the research. Your valuable opinions will play an important role in the development of the SoTL ability of medical college teachers and the improvement of the medical education quality!

Please fill in your opinions in the corresponding columns according to the instructions. We would greatly appreciate it if you could feedback your suggestions and opinions before October 31st. Thank you very much!

The research team of the 2021 Annual Project of the 14th Five-Year Plan for Education Science in Jiangsu Province titled "Research on the Paths to Improve the Scholarship of Teaching and Learning Ability of Young Teachers in Medical Colleges under the background of New Medical Science (Grant Number: D/2021/01/09).

Contact person: Xu Juan

Contact phone: 15951834561

Email: xiangbangbang@njmu.edu.cn

I. Expert Basic Information (Please tick $\sqrt{\quad}$ inside the box or fill in directly)

1. Gender: ☐ Male ☐ Female
2. Your Age (years): ☐ Under 30 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60 and above
3. Highest Degree: ☐ Doctorate ☐ Master's ☐ Bachelor's
4. Your Years of Teaching Experience: _____ years
5. Your Current Professional Title: ☐ Professor ☐ Associate Professor ☐ Lecturer
(Administrative Position Level: ☐ School-level ☐ Vice-school-level ☐ Department-level ☐ Vice department-level ☐ Section-level ☐ Vice section-level ☐ Clerk)
6. Your Job Nature: ☐ Teaching and Research ☐ Administrative Management ☐
Professional Technology ☐ Other (please specify _____)
7. Your Discipline: _____
8. Your Research Direction: _____
9. Your Contact Information Phone: _____ Email: _____

II. Consultation Form for the Indicator System of the SoTL ability for Medical College Teachers (Preliminary Selection)

Table1 Indicators and Connotation

Primary Indicator	Secondary Indicator	Tertiary Indicators	Meaning
A ₁ Teaching concept	B ₁ Teaching values	C ₁ Love and interest	Love for teaching, have interest and enthusiasm for teaching, willing to invest time and energy to do a good job in teaching
		C ₂ Teaching values	Consider teaching as meaningful and valuable, able to gain happiness, sense of achievement, value, and growth from teaching work
		C ₃ Career planning	Can make reasonable planning for their own career development, establish development plans, such as setting appropriate stage goals according to their own situation, participating in teaching activities to promote professional development, continuously improving professional competence and gradually achieving career promotion
	B ₂ Teaching belief	C ₄ Responsibility	Hold certain beliefs towards their own teaching work, such as having a mission and responsibility for teaching and educating, believing that teachers should pay attention to students, believe in students' potential, consider student differences, etc.
		C ₅ Career ambition	Actively pursue their ideals and goals, work hard, and demonstrate a diligent, dedicated, and hardworking spirit in teaching work
		C ₆ Teaching philosophy	Can keep pace with the times to learn and master advanced educational concepts to guide their own teaching process
	B ₃ Teaching principles	C ₇ Adhere to teaching principles	Can implement and correctly and flexibly apply specific requirements of teaching principles in all aspects of the teaching process to ensure teaching quality and efficiency, such as principles of intuitiveness, heuristics, etc.
A ₂ Educational and teaching ability	B ₄ Knowledge and skills	C ₈ Professional knowledge	Master solid professional knowledge and classic experimental methods and skills of the discipline (proficient operation)
		C ₉ Disciplinary system framework	Deeply understand the characteristics of their profession and discipline, be able to integrate disciplinary knowledge into a network, build a professional system framework, and understand the

			connection between this discipline and other disciplines
		C ₁₀ Cutting-edge knowledge	Can timely track the latest progress and research achievements in the discipline, and be able to transform them into teaching content knowledge to expand students' knowledge breadth, promote students' early scientific research, and cultivate innovative thinking and critical thinking abilities
		C ₁₁ Clinical medical knowledge	Familiar with relevant clinical knowledge and skills, and be able to transform and apply them in teaching through case studies, effectively connecting basic and clinical knowledge to promote students' understanding of diseases and early clinical exposure
		C ₁₂ Interdisciplinary knowledge	Understand interdisciplinary knowledge related to their profession, possess the concept of integration and innovative awareness
		C ₁₃ Educational science knowledge	Understand the classic theoretical knowledge of educational science and educational psychology, such as knowledge about the regularity of the teaching process and the understanding of educational objects
		C ₁₄ Pedagogical knowledge	Master common teaching methods, strategies, techniques, and models, be able to choose and use appropriate teaching methods and strategies according to different learning tasks and student characteristics, promote active participation and deep learning of students
		C ₁₅ Educational technology	Master common educational technology, be able to proficiently apply various media and tools to assist teaching to provide diversified and interactive learning resources, enhance learning effects, such as building an ideal learning environment through deep integration of information technology to achieve students' autonomous exploration and self-learning
		C ₁₆ Educational assessment knowledge	Master common teaching evaluation methods and be able to use them flexibly
		C ₁₇ Educational research knowledge	Master certain educational research theories and methods (such as qualitative, quantitative research methods, etc.), be able to use scientific methods and follow certain research procedures to carry out teaching research to continuously improve teaching quality

		C ₁₈ Social science knowledge	Possess certain basic knowledge of social science culture and understand its connection with this discipline; be able to care about current affairs; have a wide range of interests in knowledge fields
	B ₅ Teaching design ability	C ₁₉ Teaching design	Can reasonably design courses and teaching activities based on studying textbooks, understanding and researching students
	B ₆ Teaching ability	C ₂₀ Classroom teaching	Can select and use appropriate teaching methods and strategies according to different learning tasks and student characteristics to effectively impart knowledge, skills, and ways of thinking, promote active participation and deep learning of students, cultivate students' basic and comprehensive abilities
		C ₂₁ Classroom control	Can fully and flexibly use professional knowledge to plan and systematically impart existing knowledge outcomes or experiences to students, control the pace, and stimulate students' enthusiasm to make them eager to learn, actively participate in various learning activities
		C ₂₂ Adaptability (Teaching wit)	Can flexibly respond to sudden events in teaching and cleverly transform them into teaching resources (such as calm observation, accurate judgment, rapid decision-making, decisive handling)
	B ₇ Educational ability	C ₂₃ Curricular ideological and political education	Can excavate the ideological and political materials contained in the course itself, appropriately transform and present them to touch and cultivate students' corresponding emotional values, such as scientific spirit, medical humanitarian spirit and qualities of benevolence
		C ₂₄ Being a model for students	Have noble teacher ethics, possess good professional accomplishment and personal cultivation, be able to set a good example for students, establish correct values and moral concepts in students' hearts
		C ₂₅ Good interaction relationship	In the teaching process, adhere to student-centered principles, be able to establish equal cooperation with students in good interaction relationships, such as paying attention to observing students during teaching, timely interacting with students, creating a relaxed teaching environment overall, etc.
		C ₂₆ Caring for students	Can keenly perceive students' emotional changes, their needs, be good at dialogue and communication with them, understand and respect them, actively care for their growth

	B ₈ Evaluation and feedback ability	C ₂₇ Teaching evaluation	Can choose appropriate evaluation methods to objectively, comprehensively, and accurately measure and judge students' learning and educational effects
		C ₂₈ Teaching feedback	Can collect evaluation data, provide feedback and corrections to students, adjust teaching strategies and methods to promote students' learning and development according to feedback
	B ₉ Resource development and construction ability	C ₂₉ Resource utilization	Can effectively screen and analyze the rich online teaching resources, make full use of high-quality online teaching resources to enrich and optimize their own teaching, and actively guide and promote students' autonomous learning
		C ₃₀ Course construction	Can develop and construct course, appropriately carry out cross-integration, provide diversified course structures, expand students' learning space-time
		C ₃₁ Teaching platform construction	Can use modern information technology to build online teaching platforms, provide rich hierarchical question banks and other resources to support students' autonomous learning, exploration, and personalized learning
A ₃ Reflective practice ability	B ₁₀ Teaching reflection ability	C ₃₂ Teaching reflection	Can always maintain reflection on their own teaching concepts, the entire teaching process, especially critical reflection
	B ₁₁ Identifying problems	C ₃₃ Identifying problems	Can discover problems and phenomena in the teaching process
	B ₁₂ Analyzing and solving problem	C ₃₄ Analyzing and solving problem	Can independently analyze and actively solve problems found in teaching, such as applying literature methods or new concepts, new models, new methods, new technologies to continuously adjust, improve and innovate their teaching
	B ₁₃ Action research	C ₃₅ Writing educational projects	Can write educational projects, design teaching research, etc.
		C ₃₆ Conducting teaching research	Can organize and implement teaching research purposefully, planned, and systematically based on specific teaching situations and problems
	B ₁₄ Generating practical knowledge	C ₃₇ Teaching practice wisdom (Knowledge)	Able to continuously summarize experiences to gradually form unique teaching practice wisdom (knowledge) on the basis of reflection on their own teaching and research processes, to enrich their own disciplinary teaching knowledge
A ₄ Outcome output and transformation ability	B ₁₅ Publication	C ₃₈ Publishing academic papers	Transform research results into tangible outcomes, such as publishing academic papers (textbooks, monographs, etc.), to accept peer review

	B ₁₆ Sharing and exchange	C ₃₉ Peer exchange	Often participate in various levels of teaching seminars, academic communities of teaching, etc., share, exchange, and discuss with colleagues, peers, etc. to promote the continuous improvement and maturity of the knowledge system of this discipline
	B ₁₇ Transformation and application ability	C ₄₀ Outcome application	Can permeate academic concepts, content, methods formed during the academic research into all aspects of teaching, effectively resolve stubborn problems existing in the teaching process, achieve improvement of teaching effects
		C ₄₁ Promotion and demonstration	Can expand the application of innovative results, actively promote teaching reforms, innovate teaching modes and methods
A ₅ Comprehensive professional ability	B ₁₈ Innovative thinking ability	C ₄₂ Innovative thinking	Can think about problems and phenomena discovered in teaching from an overall perspective, and generate new ideas and unique solutions based on existing knowledge and experience, breaking away from conventional thinking patterns, thereby continuously innovating and reforming teaching concepts, models, methods, etc.
	B ₁₉ Communication ability	C ₄₃ Communication	Can adopt effective and appropriate methods to communicate with others (students, colleagues, etc.), effectively express and listen to opinions, understand and respond to emotions
	B ₂₀ Team collaboration ability	C ₄₄ Team collaboration	Can cooperate with others (students, colleagues, interdisciplinary, etc.) to complete teaching tasks
	B ₂₁ Lifelong learning ability	C ₄₅ Self-directed learning	Can seek suitable learning resources and methods (such as online resources, continuing education, etc.) based on their own professional development, self-growth needs and goals, reasonably allocate time and energy to autonomously learn relevant knowledge and skills, and be able to assess learning effects
		C ₄₆ Continuous learning	Can accept new things, be able to continuously learn, constantly update their own knowledge structure so that it gradually become more rational. Such as learning new educational concepts, educational technology and teaching models, etc.

(Please continue after reading the above indicators)

1. Primary indicator consultation form of the evaluation indicator system (Please score and suggest based on your understanding of the indicators, 1 being the least important and 5 being the most important)

Primary Indicator	Importance of Indicator (1-5)	Suggestions for Revision
A ₁ Teaching concept		
A ₂ Educational and teaching ability		
A ₃ Reflective practice ability		
A ₄ Outcome output and transformation ability		
A ₅ Comprehensive professional ability		
A ₆ (Suggested addition)		

(Please continue after reading the above indicators)

2. Secondary indicator consultation form of the evaluation indicator system (Please score and suggest based on your understanding of the indicators, 1 being the least important and 5 being the most important)

Primary Indicator	Secondary Indicator	Importance of Indicator (1-5)	Suggestions for Revision
A ₁ Teaching concept	B ₁ Teaching values		
	B ₂ Teaching belief		
	B ₃ Teaching principles		
A ₂ Educational and teaching ability	B ₄ Knowledge and skills		
	B ₅ Teaching design ability		
	B ₆ Teaching ability		
	B ₇ Educational ability		
	B ₈ Evaluation and feedback ability		
	B ₉ Resource development and construction ability		
A ₃ Reflective practice ability	B ₁₀ Teaching reflection ability		
	B ₁₁ Identifying problems		
	B ₁₂ Analyzing and solving problem		
	B ₁₃ Action research		
	B ₁₄ Generating practical knowledge		
A ₄ Outcome output and	B ₁₅ Publication		

transformation ability	B ₁₆ Sharing and exchange		
	B ₁₇ Transformation and application ability		
A ₅ Comprehensive professional ability	B ₁₈ Innovative thinking ability		
	B ₁₉ Communication ability		
	B ₂₀ Team collaboration ability		
	B ₂₁ Lifelong learning ability		
A ₆ (Suggested addition)	B ₂₂		
	B ₂₃		

(Please continue after reading the above indicators)

3. Tertiary indicator consultation form of the evaluation indicator system (Please score and suggest based on your understanding of the indicators, 1 being the least important and 5 being the most important)

Primary Indicator	Secondary Indicator	Tertiary Indicators	Importance of Indicator (1-5)	Suggestions for Revision
A ₁ Teaching concept	B ₁ Teaching values	C ₁ Love and interest		
		C ₂ Teaching values		
		C ₃ Career planning		
	B ₂ Teaching belief	C ₄ Responsibility		
		C ₅ Career ambition		
		C ₆ Teaching philosophy		
	B ₃ Teaching principles	C ₇ Adhere to teaching principles		
A ₂ Educational and teaching ability	B ₄ Knowledge and skills	C ₈ Professional knowledge		
		C ₉ Disciplinary system framework		
		C ₁₀ Cutting-edge Knowledge		
		C ₁₁ Clinical medical knowledge		
		C ₁₂ Interdisciplinary knowledge		
		C ₁₃ Educational science knowledge		
		C ₁₄ Pedagogical knowledge		
		C ₁₅ Educational technology		

		C ₁₆ Educational assessment knowledge		
		C ₁₇ Educational research knowledge		
		C ₁₈ Social science knowledge		
	B ₅ Teaching design ability	C ₁₉ Teaching Design		
	B ₆ Teaching ability	C ₂₀ Classroom Teaching		
		C ₂₁ Classroom control		
		C ₂₂ Contingency ability (Teaching wit)		
	B ₇ Educational ability	C ₂₃ Curricular ideological and political education		
		C ₂₄ Being a model for students		
		C ₂₅ Good interaction relationship		
		C ₂₆ Caring for students		
	B ₈ Evaluation and feedback ability	C ₂₇ Teaching evaluation		
		C ₂₈ Teaching feedback		
	B ₉ Resource development and construction ability	C ₂₉ Resource Utilization		
		C ₃₀ Course construction		
		C ₃₁ Teaching platform construction		
A ₃ Reflective practice ability	B ₁₀ Teaching reflection ability	C ₃₂ Teaching reflection		
	B ₁₁ Identifying problems	C ₃₃ Identifying problems		
	B ₁₂ Analyzing and solving problem	C ₃₄ Analyzing and solving problem		
	B ₁₃ Action research	C ₃₅ Writing educational projects		
		C ₃₆ Conducting teaching research		
	B ₁₄ Generating Practical Knowledge	C ₃₇ Teaching Practice Wisdom (Knowledge)		
A ₄ Outcome output and transformation ability	B ₁₅ Publication	C ₃₈ Publishing Academic Papers		
	B ₁₆ Sharing and exchange	C ₃₉ Peer exchange		
	B ₁₇ Transformation and application ability	C ₄₀ Outcome Application		
		C ₄₁ Promotion and demonstration		
A ₅ Comprehensive professional ability	B ₁₈ Innovative thinking ability	C ₄₂ Innovative thinking		
	B ₁₉ Communication ability	C ₄₃ Communication		

	B ₂₀ Team collaboration ability	C ₄₄ Team collaboration		
	B ₂₁ Lifelong learning ability	C ₄₅ Autonomous Learning		
		C ₄₆ Continuous learning		
A ₆ (Suggested addition)	B ₂₂			
	B ₂₃			

(Please continue after reading the above indicators)

III. Expert Familiarity Level Survey Form (Please tick √ in the corresponding box according to your familiarity with the project)

Indicators	Familiarity Level				
	Familiar	Fairly Familiar	General	Not very Familiar	Unfamiliar
A ₁ Teaching concept	☐	☐	☐	☐	☐
A ₂ Educational and teaching ability	☐	☐	☐	☐	☐
A ₃ Reflective practice ability	☐	☐	☐	☐	☐
A ₄ Outcome output and transformation Ability	☐	☐	☐	☐	☐
A ₅ Comprehensive professional ability	☐	☐	☐	☐	☐

IV. Criteria for Expert Judgment (Please tick √ in the corresponding box according to your actual situation)

Criteria for Judgment	Degree of Reliance (Self-evaluation by experts)		
	High	Medium	Low
Theoretical analysis	☐	☐	☐
Work Experience	☐	☐	☐
Domestic and international Research progress	☐	☐	☐
Intuitive feeling	☐	☐	☐

(Thank you again for your guidance!)