



An Instructional Coaching Model to Enhance Instructors' Instructional Skills in Vocational Colleges in Nanjing, China

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Abstract

Background and Aims: Instructional skills are the core to improving the competitiveness of vocational colleges. Instructors are essential in driving vocational college change, uniting colleagues, and helping students toward academic success. The primary purpose of this study was to develop an instructional coaching model to enhance the instructor's instructional skills in a vocational college in Nanjing, China. There were five research objectives (1) To identify the optimal instructional skills for vocational college instructors in Nanjing, China; (2) To analyze the need to enhance the instructional skills of instructors in Nanjing, China; (3) To determine the levels of instructional coaching at vocational colleges in Nanjing, China; (4) To propose a model for enhancing instructors' instructional skills in vocational colleges in Nanjing, China; (5) To validate the model to enhance the instructional skills of instructors in vocational colleges in Nanjing, China.

Methodology: The study applied concurrent mixed method research (qualitative and quantitative methods with the same objective), starting with a qualitative literature review and using the literature review analysis results in the quantitative data collection and analysis processes to establish an instructional model for improving instructors' instructional skills in vocational colleges; the research instrument was valid by five experts and reliability testing result was over acceptable levels (>0.70); in the final, the model was validated by 15 experts in qualitative methods with two-orders choices (yes or no).

Results: The results show that instructors in vocational colleges need to have five instructional skills: moral practice skills, professional instructional skills, professional development skills, comprehensive education skills, and social service skills. Based on the questionnaire to find the needs assessment priority index, the study showed that among Nanjing vocational colleges instructors, the instructional skills that needed priority improvement were ranked as follows: (1) Social service Skills (PNI modified = 0.55); (2) Comprehensive Education Skills (PNI modified = 0.45); (3) Professional Development Skills (PNI modified = 0.26); (4) Professional Instructional Skills (PNI modified = 0.24); (5) Instructor Ethics Practice Skills (PNI modified = 0.14). A model with activities was verified by 15 experts working for vocational colleges or instructional skills specialists.

Conclusions: The study confirmed the need for more social service skills among vocational college instructors in Nanjing. Even though the quantitative result indicated one instructional skill that needs to be focused on, the study's qualitative findings revealed that the model stands for the importance of developing all five instructional skills of vocational college instructors. Therefore, vocational colleges must pay attention to training these instructional skills so that instructors teaching them meet the professional standards of instructors in secondary vocational colleges.

Keywords: Instructional Skills; Instructional Coaching; Chinese Vocational Colleges' Instructors

Introduction

With its staggering population of 1.4 billion, China is a prominent global player with an insatiable thirst for education. Vocational colleges in the country play a crucial role in providing primary professional training for the workforce. Despite not enjoying the same level of prestige as traditional academic universities, these institutions are indispensable for fostering a robust economy. In 2021, over 13 million Chinese individuals enrolled in secondary vocational colleges, as The Ministry of Education of the People's Republic of China reported in 2022. This enrollment contributed significantly to the development of millions of skilled workers, technical professionals, managers, and other vital contributors to the labor force. To fulfill their role effectively, instructors at vocational colleges should be experts in their respective fields. These educators must possess specialized knowledge and undergo educational training or demonstrate a comprehensive understanding of effective educational practices. Enhancing instructional skills is identified as a foundational practice for successful transformation in Vocational Colleges, given the pivotal role instructors play in the teaching process (Huang, 2016). The success of instituting reforms within educational institutions relies not solely on the principal but significantly on instructors' contributions. To foster active participation in the reform and development



of Vocational Colleges, it becomes imperative to evolve instructors' instructional skills and motivate them to undertake greater instructional responsibilities (Li et al., 2013). This approach aims to cultivate instructors who can spearhead initiatives, challenge existing norms within the educational landscape, and actively pursue excellence in teaching and learning, as Grant et al. (2010) emphasized.

The 2021 enactment of the Professional Competency Standards for Vocational Colleges by the Ministry of Education of the People's Republic of China emphasizes the imperative of developing instructional skills among instructors in these institutions.

The standards specifically outline the expectation for instructors to demonstrate competence in participating in decision-making processes, fostering a collaborative culture, facilitating instructional improvements, and promoting school-enterprise cooperation. Consequently, enhancing instructor instructional skills has emerged as a prominent trend in education reform across various sectors, as Weng (2016) highlighted. It is crucial to place complete trust in the instructional skills of vocational college instructors and harness their instructional skills' role in driving education reform initiatives. Furthermore, there is a pressing need for additional research in this domain. The existing literature predominantly delves into the reasoning behind Western research findings. Specifically, research on instructor instructional skills in China tends to center around instructors within universities, with limited scholarly attention dedicated to the development of instructional skills among vocational college instructors (Yuan & Wang, 2021). Nevertheless, there is an urgent call for research on instructor instructional skills to enrich and cultivate this particular field (Zeng, 2020).

This study focuses on developing a model to enhance instructor instructional skills in vocational colleges in Nanjing. The following research objectives were addressed through an exploratory mixed-methods design: 1). What are the optimal instructional skills for vocational college instructors in Nanjing, China? 2). What is the needs assessment of instructional skills of instructors in vocational colleges in Nanjing, China? 3). What are the levels of instructional coaching at vocational colleges in Nanjing, China? 4). What is the model for enhancing instructors' instructional skills in vocational colleges in Nanjing, China? 5). How can the model be validated to enhance the instructional skills of instructors in vocational colleges in Nanjing, China?

Literature Review

Instructional Coaching Theory (Knight, 2000) is a transformative professional development method. By encouraging reflection on one's own and another's practice, coaching provides instructors with personalized learning experiences. This approach enhances instructional effectiveness and student accomplishment (Loucks et al., 2009). Instructors' daily work in their classrooms and with their coworkers is enriched with professional learning through coaching. Coaches play a pivotal role in this process, assisting educators in becoming more knowledgeable, skilled, and experienced. Research by Boatright and Gallucci (2008) has underscored the significant potential of coaching for transforming classroom practices and instilling in educators a sense of empowerment and hope.

The qualities or guiding concepts that form the foundation of coaching programs (Moody, 2019) are rooted in collaboration. Knight (2000) outlined the partnership principles: Equality, Choice, Voice, Dialogue, Reflection, Praxis, and Reciprocity. These principles underscore the collaborative nature of coaching, where instructors are not just recipients of guidance but active participants, contributing their unique perspectives and experiences. This collaborative approach fosters a sense of value and integration among instructors.

Instructional Skills (Mallillin, 2020) are a comprehensive set of tools that enhance knowledge and practice and reinforce effective instructional methods. These skills equip instructors with the style and methods to address work-based needs in the psychomotor, affective, and cognitive domains (Mallillin, 2020). They advance the structure of various learning domains, including pedagogical and strategic approaches to improve student and instructor achievement (Mallillin et al., 2021). Instructional skills provide instructors with the technical skills, competencies, and instructional skills that make them talented, enthusiastic, adaptable, creative, honest, practical, and resourceful (Mallillin, 2021). This comprehensive skill set helps instructors develop and apply knowledge of teaching and learning processes in a well-organized classroom environment (Mallillin & Laurel, 2022), instilling confidence and readiness in instructors.

The instructional skills in modern teaching encompass various aspects such as classroom management, instructional delivery, formative assessment, personal competency, flexibility and adaptability, facilitation and engagement, collaboration and teamwork, communication and interpersonal skills, caring and inclusiveness, and organization and planning. These skills are essential for creating a conducive learning environment, ensuring effective instruction, assessing student



understanding and progress, fostering instructor competence, adapting to different circumstances, promoting student motivation and curiosity, encouraging faculty interaction and responsibility, improving interpersonal skills and communication, valuing diverse teaching techniques, and facilitating the success and achievement of instructors in the academic setting.

Research Methodology

Quantitative Methods. In this study, data were collected through the use of questionnaires. The questionnaire, consisting of 58 items, was structured with two factors. Responses were recorded using a 5-point Likert scale. The reliability of the first part of the questionnaire was determined to be .85. In contrast, the second part exhibited a reliability of .76. Comprehensive reliability results for the questionnaires are outlined in Table 1, and details regarding the study populations are presented in Table 2.

Table 1 Reliability of questionnaires of first part and second part (n=825)

Questionnaires	Items	Cronbach's alpha
Questionnaire part one	45	.85
Questionnaire part one	13	.76

Table 2 Population and Sample

Vocational Colleges	Population	Sample
Vocational College 1	452	90
Vocational College 2	551	87
Vocational College 3	459	84
Vocational College 4	451	87
Total	1913	348

This study's data collection method was a systematic literature review. Keywords such as "instructors' instructional skills" were utilized to search for literature published between 2000 and 2022. The systematic literature review process involved three steps to ensure the sample literature's relevance to the study objectives. Firstly, the researchers meticulously read and analyzed the literature, extracting relevant words and sentences that aligned with the expectations of instructor instructional skills. Subsequently, words and sentences with similar meanings were consolidated into a single summary term. Lastly, these keywords were categorized and summarized into ten areas: 1) classroom management, 2) instructional delivery, 3) formative assessment, 4) personal competency, 5) flexibility and adaptability, 6) facilitation and engagement, 7) collaboration and teamwork, 8) communication and interpersonal skills, 9) caring and inclusiveness, and 10) organization and planning. To ensure the extracted elements' reliability and categorization, the researchers sought the input of experts with extensive experience. These experts evaluated the research process to verify the credibility of both the process and the results.

Objective Two aims to assess the current and ideal levels of instructional skills among instructors in Nanjing vocational colleges using mean and standard deviation. Concurrently, a modified Performance Need Index (PNI) is employed to analyze the disparity. The researcher used the mean and standard deviation for Objective Three to determine the existing levels of instructional coaching in Nanjing vocational colleges.

Results and Discussion

Five research objectives were conducted in this study. According to each objective, the findings and conclusions are as follows.

Results for Objective One: To identify the optimal instructional skills for vocational college instructors in Nanjing, China.

To identify the instructors' optimal instructional skills in vocational colleges. The results from the literature review and the focus group shared similarities about the importance of the skills for vocational college instructors, including social service skills, comprehensive education skills, professional development skills, professional instructional skills, and instructor ethics practice skills.

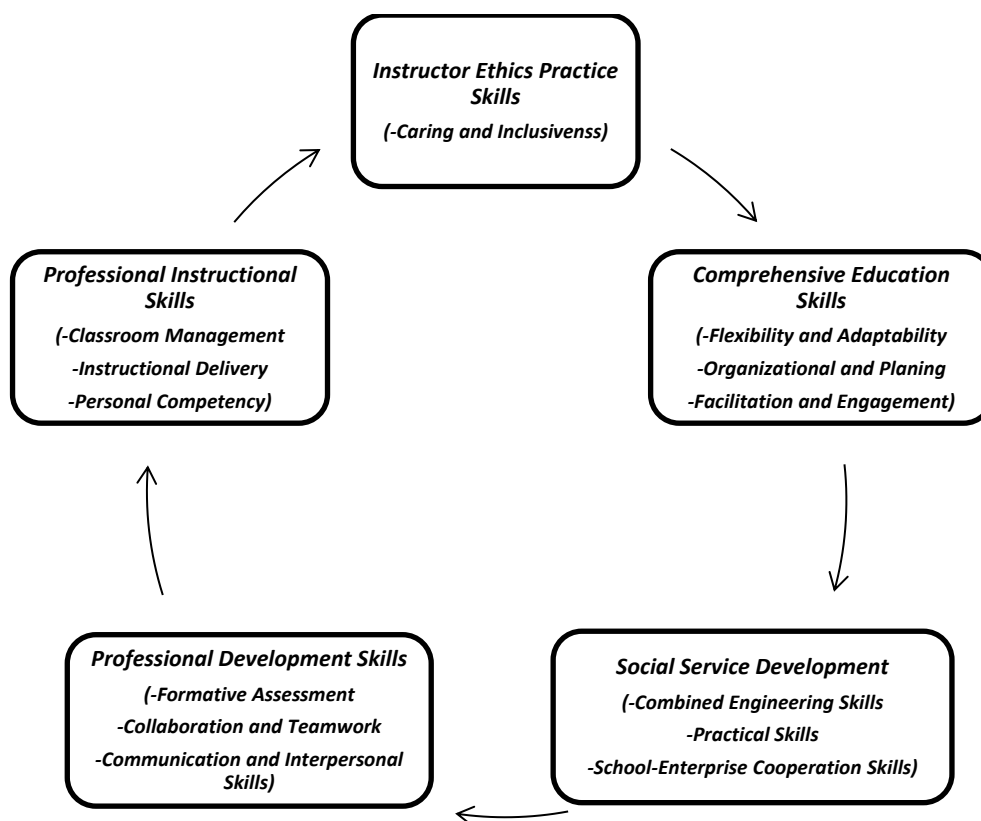


Figure 1 Summary of Optimal Instructional Skills for Vocational College Instructors

Results for Objective Two: To analyze the needs assessment of instructional skills of instructors in vocational colleges in Nanjing, China.

A total of 348 instructors were surveyed, of whom 180 were male (51.7%) and 168 were female (48.3%). Among the age data of the instructors who participated in the survey, the participation rate of the instructors in the age group of 31-40 was the highest, 159 (45.7%), 121 (34.8%) in the age group of 20-30, 53 (15.2%) in the age group of 41-50, and the participation rate of the instructors in the age group of 51-60 was the lowest, only 15 (4.3%). The most significant number of former participants were 133 (38.2%) who had worked for five to 10 years, 96 (27.6%) who had worked for one to five years, and 119 (34.2%) who had worked for more than ten years. The most significant number of bachelor's degree holders were 208 (59.8%), 72 (20.7%), and 68 (19.5%).

Descriptive statistics were used to analyze the mean value, standard deviation, and PNI_{modified}, which were modified for each instructor's instructional skills. Tables 1 and 2 show the results of this goal.

Table 3 Summary of Survey Results from Ideal and Current Instructional Skills (n=348)

Item No.	Item	Ideal		Current	
		Mean	SD	Mean	SD
1	Instructor Ethics Practice Skills	4.47	0.61	3.91	0.99
2	Professional Instructional Skills	4.51	0.58	3.64	0.98
3	Professional Development Skills	4.47	0.51	3.53	1.16
4	Comprehensive Education Skills	4.30	0.51	2.96	1.03
5	Social Service Skills	4.24	0.58	2.74	1.11
Average		4.40	0.56	3.36	1.05

Dependent Variable: Level of Instructional Skills

Table 3 shows that vocational college instructors in vocational colleges in Nanjing identified the ideal instructional skills with the highest score as Professional Instructional Skills (Mean= 4.51,



SD=0.58) interpreted as excellent. The lowest score for desired instructional skills was for Social Service Skills (Mean= 4.24, SD=0.58), which was interpreted as very good—the current instructional skills of instructors in vocational colleges in Nanjing. The highest score as Instructor Ethics Practice Skills (Mean= 3.91, SD=0.99) was interpreted as very good. The lowest score for current instructional skills was c Social Service Skills (Mean=2.74, SD=1.11), interpreted as good.

Table 4 *The Needs Assessment Gap (PNI modified) from Ideal and Current Characteristics of Instructional Skills*

Characteristics	Mean	Current	PNImodified	Ranking
	Desired (I)	(D)	(I-D)/D	
Social Service Skills	4.24	2.74	0.55	1
Comprehensive Education Skills	4.30	2.95	0.45	2
Professional Development Skills	4.47	3.53	0.27	3
Professional Instructional Skills	4.50	3.64	0.24	4
Instructor Ethics Practice Skills	4.47	3.91	0.14	5

Table 2 revealed the comparison table between the ideal and current level of instructional skills to identify the needs assessment gap. According to the study, an excellent vocational college instructor must have all five teaching skills. The findings indicated that the priority needs to help foster instructors' instructional skills were ranked as follows: (1) Social Service Skills, (2) Comprehensive Education Skills, (3) Professional Development Skills, (4) Professional Instructional Skills, and (5) Instructor Ethics Practice Skills. Instructor Ethics Practice Skills scored the least PNI_{modified}, which showed that among vocational colleges in Nanjing, current instructors had a high level of these characteristics. The remaining instructional skills, including Professional Instructional Skills, Professional Development Skills, and Comprehensive Education Skills, showed moderate development, with PNI_{modified} between 0.24 and 0.45. Priority should be given to developing social service skills among the instructors, as this area showed the widest gap. However, the study indicates the relevance of all five instructional skills for enhancing instructors' teaching abilities. Therefore, the model includes all five instructional skills without excluding any, as they are all essential for vocational college instructors.

Results for Objective Three: To determine the levels of instructional coaching at vocational colleges in Nanjing, China.

To determine the development of instructor-level instructional coaching at the four vocational colleges in Nanjing, China.

These seven items were identified for the second part of the survey. This section mainly presents the frequency of joining instructional coaching for vocational college instructors in Nanjing. All the data obtained from 384 valid survey responses were analyzed using descriptive analysis.

Table 5 *Results of Objective Three (n=348)*

Item No.	Item	Mean	SD	Interpretation
1	Equality	3.33	1.35	Good
2	Choice	3.72	1.24	Very good
3	Voice	3.68	1.29	Very good
4	Dialogue	3.63	1.32	Very good
5	Reflection	3.68	1.23	Very good
6	Praxis	3.61	1.27	Very good
7	Reciprocity	3.72	1.25	Very good
Overall Mean		3.62	1.28	Very good

The highest mean of instructional coaching was item 2 about Choice (Mean= 3.72, S.D.= 1.24) and item 2 about Reciprocity (Mean= 3.72, S.D.= 1.25). The lowest mean was item 1 about Equality (Mean= 3.33 S.D.= 1.35).

Results for Objective Four: To develop a model for enhancing instructors' instructional skills in vocational colleges in Nanjing, China.

Results from Objective Two revealed disparities between the ideal instructional skills expected of instructors and their current instructional skill levels in Nanjing Vocational Colleges, China. The researcher formulated a model for enhancing instructor instructional skills to address these gaps. In the model development process, variables crucial for constructing the model were identified based on the findings from Objective Two. Notably, one of the five instructional skills, social service skills, emerged as the least developed. Improving social service skills is imperative to bridge this gap, while the other four instructional skills can be maintained as effective practices. Consequently, the model emphasizes enhancing these five instructional skills for instructors within vocational colleges in Nanjing, China. The model was constructed based on insights from instructional skills theory and instructional coaching theory and input obtained through interviews with four vocational college principals.

With objective two and interview data findings, a circular conceptual model was developed with the activities or practices to promote instructional skills. The activities were based on instructional skills theory, which focused on individual development and motivation. Through the practices mentioned, instructors should enhance their instructional skills. After these skills are developed, instructors can apply them in teaching and gain more experience.

Results for Objective Five: To validate the model to enhance instructional skills of instructors in vocational colleges in Nanjing, China.

Objective Five sought to validate a model for improving instructional abilities among educators in vocational colleges in Nanjing, China. To achieve this, the researcher performed an expert validation of the model, involving a thorough assessment, analysis, and consideration of the model's context, data sources, process, and concepts. Fifteen experts specializing in vocational college instructional skills participated in the review and validation, providing valuable recommendations and comments. Consensus among the experts was achieved regarding the research context, data sources, and model results. They expressed positive perspectives on the model components and concepts while pinpointing areas requiring modification. In response, the researcher diligently revised the draft model by the specified recommendations, ultimately presenting the finalized model for this study. The model is presented in Figure 2.

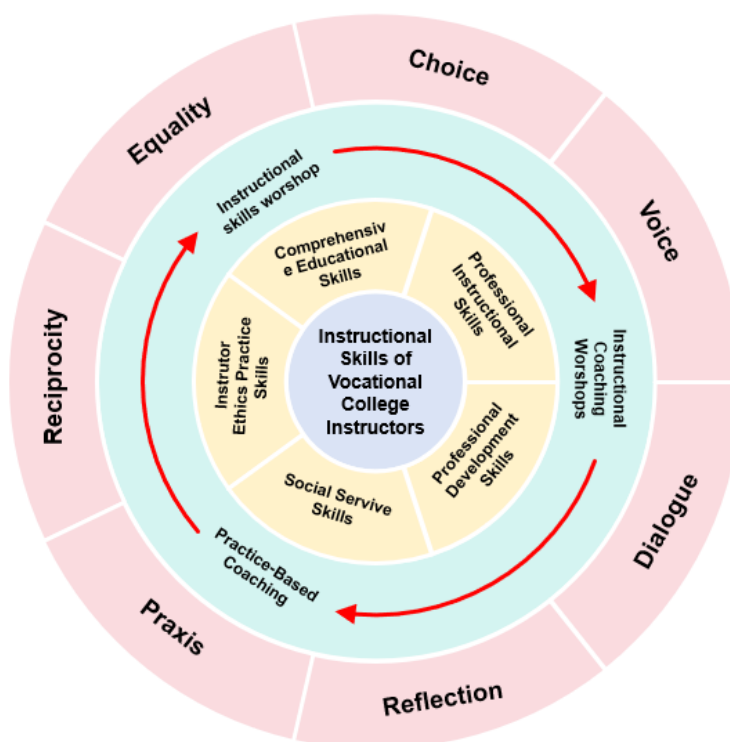


Figure 2: A Model for Developing Instructional Skills for Instructors at Vocational Colleges in Nanjing, China



Conclusion & Recommendations

This study aimed to develop a model to improve the instructional skills model of instructors at Nanjing Vocational Colleges in China. The instructional skills model is based on qualitative and quantitative data. The conclusion includes the research objectives, the research process, and the study results, followed by a discussion of the findings in the context of the relevant literature and recommendations for researchers in related fields at Nanjing vocational colleges. The researcher found that instructors' social service skills for instructional skills were the most needed improvements in the study at Nanjing vocational colleges.

Based on the results of this study, a model of instructional skills of instructors at vocational colleges in Nanjing, China, was developed.

Some recommendations were made. Considering the components of the model and the process of creating the model, the researcher suggested some recommendations for future researchers in Nanjing vocational colleges.

Recommendations to the Vocational Colleges in Nanjing, China

The development of instructional skills of counselors in vocational colleges is necessary to develop vocational education in the new era, and it is an inevitable choice to adapt to talent competition, social competition, college competition, and scientific management in vocational colleges. Only by cultivating a large number of instructors with reliable and professional skills and instructional skills can we improve the overall quality of the reserve force of instructors in China's vocational colleges and lay a solid foundation for developing vocational education.

Recommendation to Instructors

To nurture instructors' instructional skills, instructors should transition from traditional roles to becoming facilitators, guiding self-development, encouraging social participation, and fostering the pursuit of meaning in life. Instructors develop instructional skills and integrate these skills into their educational practices. This shift empowers instructors to make positive impacts on their lives, careers, and society at large.

Recommendation to Researchers

First, since most existing research focuses on the instructional skills of general university instructors, additional research is needed specifically for vocational educators' teaching skills. Secondly, conducting further research across various colleges, schools, and diverse regions would enable a comparison with the current study's findings, contributing to a more comprehensive understanding. Thirdly, it is crucial to acknowledge that the model remains theoretical, and its validity requires verification. Subsequent researchers can enhance the model's usefulness by adapting its data and components and combining them with real-world situations for practical validation and improvement.

Limitations

It is essential to consider the following limitations of this study when evaluating the findings: The researcher only collected data from some vocational colleges in Nanjing. In addition to these four participating institutions, the participation intention of other vocational colleges could be higher, resulting in the omission of data.

This study takes vocational colleges in Nanjing as the research object. The generalizability of the research results may be limited to the characteristics of vocational colleges in Nanjing and does not apply to vocational colleges or other types of educational institutions in other regions.

Based on the survey data and interview results of four targeted higher vocational colleges in Nanjing, the model needs to be more mature. The model's generalizability, feasibility, and effectiveness need long-term testing and theoretical verification while lacking the student body's perspective.



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