

GUIDELINES FOR IMPROVING TEACHING ACADEMIC ABILITY OF
HIGHER VOCATIONAL COLLEGES IN GUANGXI

HE FEIYAN

A thesis submitted in partial fulfillment of the requirements for
the Degree of Doctor of Philosophy Program in Educational Administration

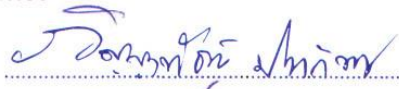
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Thesis Title Guidelines for Improving Teaching Academic Ability of Higher Vocational Colleges in Guangxi

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ABSTRACT

The objectives of this research were: 1) to study the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi, 2) to provide the guidelines to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi, and 3) to evaluate the feasibility of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The sample were 351 teachers in 4 higher vocational colleges in Guangxi. They were selected by stratified random sampling. The interview group was 12 people. The experts for evaluated were 3 people. The research instruments include: 1) questionnaire, 2) structured interview, and 3) evaluation form, statistical tools used in this research were percentage, average value, standard deviation, and content analysis.

The results show that the current situation of teaching academic ability of higher vocational teachers in 6 aspects is at a high level. According to the results of this study, the aspects are ranked from highest to lowest respectively as follows. The highest is teaching academic concept, followed by professional knowledge ability, reflection and inquiry ability, communication activity ability, innovation and application ability, whereas the qualities of both engineering and teaching are at the lowest level. The guidelines for improving teaching academic ability of teachers in higher vocational colleges in Guangxi in 6 aspects, which contain 30 measures. The feasibility of the teaching academic ability guideline for teachers in higher vocational colleges is at the highest level.

Keywords: Guidelines, Teaching academic ability, Higher vocational colleges

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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์ 1) เพื่อศึกษาสภาพปัจจุบันของความสามารถการสอนเชิงวิชาการของวิทยาลัยอาชีวศึกษาระดับสูงในมณฑลกว่างสี 2) เพื่อเสนอแนวทางการพัฒนาความสามารถการสอนเชิงวิชาการของวิทยาลัยอาชีวศึกษาระดับสูงในมณฑลกว่างสี และ 3) เพื่อประเมินความเป็นไปได้ของแนวทางการพัฒนาความสามารถการสอนเชิงวิชาการของวิทยาลัยอาชีวศึกษาระดับสูงในมณฑลกว่างสี กลุ่มตัวอย่างที่ใช้ในการวิจัยครั้งนี้ ได้แก่ อาจารย์ จากวิทยาลัยอาชีวศึกษาระดับสูงในมณฑลกว่างสี จำนวน 4 แห่ง รวมทั้งสิ้น 351 คน โดยการสุ่มเชิงชั้นภูมิ กลุ่มผู้ให้ข้อมูลสัมภาษณ์ จำนวน 12 คน กลุ่มผู้ประเมิน จำนวน 3 คน เครื่องมือที่ใช้ในการวิจัย ได้แก่ 1) แบบสอบถาม 2) แบบสัมภาษณ์ และ 3) แบบประเมิน สถิติที่ใช้ในการวิจัย ได้แก่ ค่าร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และการวิเคราะห์เนื้อหา (Content Analysis)

ผลการวิจัยพบว่า สภาพปัจจุบันของความสามารถการสอนเชิงวิชาการของวิทยาลัยอาชีวศึกษาระดับสูงในมณฑลกว่างสี โดยภาพรวมทั้ง 6 ด้าน มีค่าเฉลี่ยอยู่ในระดับสูง เพื่อพิจารณาเป็นรายด้าน พบว่า แนวคิดทางการสอนเชิงวิชาการ มีค่าเฉลี่ยสูงสุด รองลงมาคือความสามารถทางความรู้เชิงวิชาชีพ ความสามารถทางการไตร่ตรองและสอบถาม ความสามารถการสื่อสารทางกิจกรรม ความสามารถทางนวัตกรรมและการประยุกต์ใช้ ส่วนคุณภาพด้านวิศวกรรมและการสอน มีค่าเฉลี่ยต่ำสุด แนวทางการพัฒนาความสามารถการสอนเชิงวิชาการของวิทยาลัยอาชีวศึกษาระดับสูงในมณฑลกว่างสี ประกอบด้วย 6 ด้าน รวมทั้งสิ้น 30 มาตรการ ผลการประเมินความเป็นไปได้ของแนวทางการพัฒนาความสามารถการสอนเชิงวิชาการของวิทยาลัยอาชีวศึกษาระดับสูง อยู่ในระดับสูงสุด

คำสำคัญ: แนวทาง ความสามารถการสอนเชิงวิชาการ วิทยาลัยอาชีวศึกษาระดับสูง

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Contents

	Page
Abstract.....	i
Abstract (Thai).....	ii
Acknowledgement.....	iii
Contents.....	iv
List of Figures.....	vi
List of Tables.....	vii
Chapter	
1 Introduction.....	1
Rationale.....	1
Research Question.....	3
Objective.....	3
Scope of the Research.....	3
Advantages.....	5
Definition of Terms.....	6
Research Framework.....	9
2 Literature Review.....	10
Academic theory of teaching's Schulman.....	10
Concept of education administration.....	13
Concepts of teaching academic ability.....	15
Context of higher vocational colleges.....	20
Related Research.....	37
3 Research Methodology.....	42
The population/ Sample Group.....	42
Research Instruments.....	43
Data Collection.....	46
Data Analysis.....	47

Contents (Continued)

	Page
4 Results of Analysis	48
Presentation of Data Analysis.....	48
Result of Data Analysis.....	49
Analysis of interview results.....	60
5 Discussion Conclusion and Recommendations	115
Conclusion.....	115
Discussion.....	123
Recommendations.....	136
References	140
Appendixes	146
A List of Specialists and Letters of Specialists Invitation for IOC Verification.....	147
B Official Letter.....	152
C Research Instrument.....	160
D The Results of the Quality Analysis of Research Instruments.....	169
E Certificate of English.....	178
F The Document for Accept Research.....	180
Researcher Profile	182

List of Figures

Figure	Page
1.1 Research framework.....	9
2.1 Overall trend analysis.....	39
2.2 Discipline distribution.....	40

List of Tables

Table	Page
2.1 The results of the synthesis of teaching academic ability characteristics.....	19
2.2 Vocational education policies on vocational teacher team construction and ability requirements in the past five years.....	23
2.3 The structural dimensions and index factors of teaching academic ability of higher vocational college teachers.....	34
3.1 Sampling table.....	43
4.1 Number and Percentage of Respondents.....	49
4.2 The average value and standard deviation of the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi in six aspects.....	51
4.3 The average value and standard deviation of the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of teaching academic concepts.....	52
4.4 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of professional knowledge ability.....	53
4.5 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of communication activity ability.....	54
4.6 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of reflection and inquiry ability.....	56
4.7 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of Innovation and application ability.....	57
4.8 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of the qualities of both engineering and teaching.....	58
4.9 Personal information of respondents.....	61
4.10 Guidelines for improving teaching academic ability of teachers in higher vocational colleges in Guangxi.....	96

List of Tables (Continued)

Table	Page
4.11 The average value and standard deviation of the feasibility evaluation of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.....	105
4.12 The average value and standard deviation of the feasibility evaluation of the guidelines for strengthening teaching academic concept.....	106
4.13 The average value and standard deviation of the feasibility evaluation of the guidelines for improving professional knowledge ability.....	107
4.14 The average value and standard deviation of the feasibility evaluation of the guidelines for improving communication activity ability.....	108
4.15 The average value and standard deviation of the feasibility evaluation of the guidelines for improving reflection and inquiry ability.....	109
4.16 The average value and standard deviation of the feasibility evaluation of the guidelines for improving innovation and application ability.....	111
4.17 The average value and standard deviation of the feasibility evaluation of the guidelines for improving the qualities of both engineering and teaching.....	112

Chapter 1

Introduction

Rationale

The Overall Plan for the Reform of Educational Evaluation in the New Era puts forward high requirements for the teaching and academic ability of teachers in higher vocational colleges.

In 2020, the CPC Central Committee and The State Council issued the Overall Plan for Deepening the Reform of Educational Evaluation in the New Era, calling for correcting the chronic problem of "only grades and enrollment". "Only diplomas, only papers and only hats" play an important guiding role in educational evaluation and reform teacher evaluation to promote the implementation of the mission of teaching and education. It pointed out that we should resolutely overcome the phenomenon of valuing scientific research over teaching and teaching over educating people. According to "several opinions of the Ministry of Education on Deepening the Reform of Vocational Education and Teaching and Comprehensively Improving the Quality of Personnel Training" Education Government. (2015), No. 6 also clearly points out that "strengthening teachers' professional skills, practical teaching, information technology application and teaching research ability improvement training, actively promote the transformation of teachers' roles, educational concepts, teaching concepts, teaching content, teaching methods, teaching evaluation and other aspects". Therefore, under the background of the new era, the improvement of teachers' teaching and academic ability in vocational and technical colleges is an inevitable requirement for the development of higher vocational education to a new stage.

Teaching academic ability is an important index to evaluate teachers' academic level and competence.

Zhou Ping (2015, p.94) studied the theories of foreign experts and combined them with the actual situation in China. She argued that if the evaluation of teachers only recognizes academic level and does not include the quality of teaching work, it does not fundamentally address the important issues of teachers not taking teaching

seriously and students not being satisfied with the quality of teaching. Teachers' ability to teach academically is primarily reflected in their ability to develop and design curricula, which directly affects the quality of classroom instruction and student satisfaction. Therefore, teaching academic ability is an important metric to assess a teacher's academic level and ability.

Improving the academic ability of teachers is an urgent need for the development of teachers in higher vocational colleges in Guangxi.

At present, Guangxi's higher vocational colleges have relatively weak academic teaching. The contradiction between teaching and scientific research is existed. The problem of "attaching importance to scientific research and neglecting teaching" is difficult to solve. As industry, universities and research become more closely integrated, the contradictions between the two have become more acute. Liu Xuemei (2017, p.83) considered that the problems of teachers' teaching effectiveness and the cultivation of talents with applied skills had become difficulties in the improvement of teaching quality in higher vocational colleges.

By 2022, Guangxi has 49 higher vocational colleges registered by the Ministry of Education and independently set up, including 34 public higher vocational colleges and 15 private higher vocational colleges. The total number of teaching staff in Guangxi vocational colleges is 33,938 (Annual Report on the Quality of Higher Vocational Education in Guangxi (2023)). Most full-time teachers were graduated of comprehensive universities. They had taken courses in systematic subjects but had not been involved in corporate practice. In the face of the great wave of change, the development of teacher teaching has gradually attracted more attention. Under the new situation, how to formulate strategies to improve the teaching and academic level of teachers in higher vocational colleges in Guangxi, refine teachers' teaching skills, improve teachers' teaching skills, guide them to realize the integration and innovation of their own disciplines and education specialization in the process of teaching growth, and promote their own teaching growth is imminent.

To sum up, this study was based on three reasons: the country's high requirements for teachers in higher vocational colleges, teaching academic ability as an important index to evaluate the academic level and ability of college teachers. It

was urgent to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi. In view of the current research gaps in the teaching academic ability of teachers in higher vocational colleges in Guangxi, research questions and research objectives were formulated.

Research Questions

1. What is the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi?
2. What are the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi?
3. What is the feasibility of the guidelines for the improvement of teaching academic ability of teachers in higher vocational colleges in Guangxi?

Objectives

1. To study the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi.
2. To provide the guidelines to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi.
3. To evaluate the feasibility of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.

Scope of the Research

Population and sample group

Population

The population for this research was 3,938 teachers from 4 vocational colleges in Guangxi.

Sample Group

According to Krejcie and Morgan's table, the sample group for this study was 351 teachers at four higher vocational colleges in Guangxi. The four vocational colleges include Guangxi Vocational and Technical College, Guangxi Performing Arts Vocational College, Guangxi Industrial Engineering Vocational and

Technical College and Guangxi Logistics Engineering Vocational and Technical College. A sample was collected from teachers at vocational colleges in Guangxi by using a stratified random sampling method.

Interviewees

This interview group for providing information is designed to provide the guidelines to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi. The respondents to the study were 12 experts, including the head of the academic affairs office, the head of the personnel department, and the professional teachers at Guangxi's higher vocational colleges. The qualification requirements of the respondents were as follows: 1) being associate professor or higher academic title, and 2) engaged in vocational education for over 10 years.

Evaluation

This research aims to develop guidelines to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi based on existing literature, preliminary interview findings, and survey results. The experts who evaluated the feasibility of the guidelines to improve the academic ability of teachers' in higher vocational colleges in Guangxi were three high-level experts from Guangxi. The qualification requirements of the experts are as follows: 1) More than 15 years of experience in vocational education, 2) Valuable experience in education management, and 3) Academic title is associate professor or above.

Research Variables

According to the analysis of related theories and Chinese policy, the academic abilities of higher vocational teachers include the following:

1. Teaching academic concept
2. Professional knowledge ability
3. Communication activity ability
4. Reflection and inquiry ability
5. Innovation and application ability
6. The qualities of both engineering and teaching.

Advantages

Enrich Theory. Based on the research on the training of teachers' teaching and academic ability in vocational and technical colleges, this study investigates the teaching and academic ability of teachers in vocational and technical colleges in reality, makes an attribution analysis of their shortcomings, and puts forward the corresponding training countermeasures. According to the development law of higher vocational education, the teaching and academic ability of teachers in higher vocational colleges should be improved. This study can enrich the content of the research theory of teachers' teaching academic ability, explore how to cultivate and improve the teaching academic ability of higher vocational colleges under the overall scientific research atmosphere, and provide theoretical guidance for the research of teachers' teaching academic ability of higher vocational colleges. Colleges and universities constantly train and improve teachers' teaching academic ability.

Policy Reference: This study obtained and analyzed the data through questionnaire survey to understand the current situation of teachers' teaching academic ability in higher vocational colleges, and carried out the practice of teachers' teaching academic ability training in the form of action research. On the one hand, it tries to promote teachers to change their academic ideas on the basis of grasping the current situation of teachers' academic teaching, puts forward suggestions and countermeasures on how to improve teachers' academic teaching ability, and helps teachers to develop their academic teaching ability. To carry out more targeted and academic teaching activities, share teaching and research results, improve teaching quality and promote teachers' professional development. On the other hand, it also provides reference for the decision-making of the college management department, formulates positive policies for teacher promotion and evaluation, creates a positive academic teaching system environment, promotes the further development of teachers' academic teaching, thereby improving the teaching level, thereby promoting the improvement of teaching quality, and ultimately promotes the connotation development of higher vocational colleges.

Definition of Terms

The topic of this study is a guideline to improving the teaching academic ability of teachers in higher vocational colleges in Guangxi, which has the following 9 concepts:

1. Teaching Academic Ability refers to the integration of "scientific research" and "teaching" ability in the traditional sense, guided by the teaching academic concept, the quality and ability of the necessary theoretical and practical level in teaching work. It includes six dimensions, which are: teaching academic concept, professional knowledge ability, communication activity ability, reflection and inquiry ability, innovation and application ability, and dual teacher quality ability.

1.1 Teaching Academic Concept refers to the educator's knowledge and understanding of teaching, which is the guiding principle and behavior standard in educational practice. It reflects the educator's understanding and expectation of students' learning and is the educator's thinking and grasp of educational goals, teaching methods, classroom management and other aspects. The academic concept of teaching directly affects the teaching strategy and behavior of educators and has an important impact on the teaching effect.

1.2 Professional Knowledge Ability refers to teachers' ability including subject knowledge, educational knowledge, teaching content knowledge and practical knowledge at the same time. In terms of subject knowledge, teachers can basically master the professional theoretical knowledge and applied knowledge of the subject, and get involved in the cutting-edge new knowledge, new technology and new methods in the professional field. In terms of educational science knowledge, teachers have a basic grasp of the basic theories of educational science, teaching methods, student psychology and advanced educational teaching concepts. In terms of teaching content, teachers should form, perfect, and develop the teaching content that conforms to both students' learning characteristics and personal teaching knowledge in teaching practice. In terms of practical knowledge, teachers must have solid professional practical knowledge.

1.3 Communication Activity Ability refers to teachers' ability including participating in communication at different levels and carrying out different forms of

communication, participating in exchanges at different levels including micro exchanges such as public classes, teachers' mutual listening and evaluation, and teaching discussions, participating in meaningful interviews, such as teaching seminars organized by colleges or universities, And participating in teaching exchanges in a macro sense, such as regional, national, and international teaching or results exchanges. Various forms of exchange can be carried out. Formal exchange includes discussions, reports, conference speeches, outcome reports, and published journal articles. Informal communication methods involve teaching and conversation among teachers, along with the use of modern and developed information technology tools such as Micro-blog, WeChat, QQ group, etc.

1.4 Reflection and Inquiry Ability refers to teachers' ability including the ability to reflect and reflect on the formation of teaching outcomes. Reflective ability includes the reflection on course design (Course preparation process), the reflection on teaching content and teaching methods (Teaching process), and the reflection on teaching effects (Self-evaluation process). Through a series of reflective activities, teachers can find and solve the problems in teaching practice and improve the ability of independent teaching. The ability to reflect on teaching results is to improve the content of reflection from simple self-reflection to effective and valuable research results, including various forms of teaching and academic teaching and academic results.

1.5 Innovation and Application Ability refers to teachers' ability including conceptual innovation ability and practical innovation ability. Concept innovation ability refers to constantly absorbing and understanding new ideas, updating and developing old educational ideas, and innovating their own teaching methods and evaluation methods according to the needs of The Times. Practical innovation ability refers to the ability of teachers to keep pace with the times and master new technologies, and the ability to apply them to teaching.

1.6 The Qualities of Both Engineering and Teaching refers to teachers' ability including higher theoretical knowledge and higher teaching level, but also having strong professional practice ability and rich practical experience. The quality of teachers is organically combined with that of engineers. At the same time, there are teacher qualification certificate and vocational skills registration certificate.

2. Higher Vocational Colleges refers to general institutions of higher education that train technical and skilled talents. They pay attention to practical teaching and vocational skills training. In the process of learning, students will not only receive theoretical knowledge, but also carry out practical training to enhance practical ability and professional quality. In this research, the population from 4 vocational colleges in Guangxi including Guangxi Vocational and Technical College, Guangxi Performing Arts Vocational College, Guangxi Industrial Engineering Vocational and Technical College and Guangxi Logistics Engineering Vocational and Technical College.

3. Guideline refers to provide guidance and advice to people to help them achieve a specific goal or solve a problem. The guideline of this study is a text or tool that provides detailed guidance and suggestions for teachers of higher vocational colleges in Guangxi to help them improve their teaching and academic ability. The guideline aims to help teachers in Guangxi higher vocational colleges continuously improve their teaching academic ability by strengthening six aspects of teaching academic concept, professional knowledge ability, communication activity ability, reflection and inquiry ability, innovation and application ability, the qualities of both engineering and teaching.

Research Framework

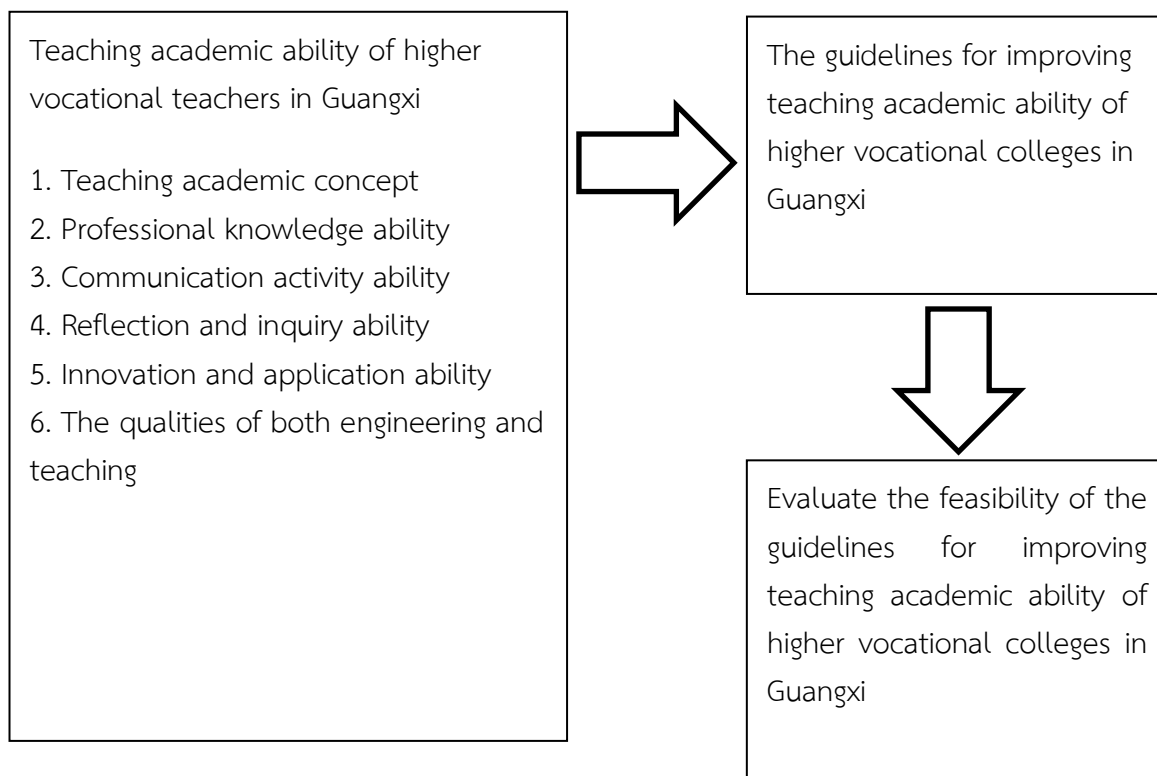


Figure 1.1 Research Framework of Guidelines for Improving Teaching Academic Ability of Higher Vocational Colleges in Guangxi

Chapter 2

Literature Review

In the study on improving the teaching academic ability of teachers in higher vocational colleges in Guangxi, the researchers analyzed the relevant literature, concepts, theories, studies, and the actual situation in China. The specific content is as follows:

1. Academic theory of teaching' Schulman
2. Concept of education administration
3. Concepts of teaching academic ability
4. Context of higher vocational colleges
5. Related research

Academic theory of teaching' Schulman

In the history of the development of teaching scholarship, Schulman had played an irreplaceable important role in both the theoretical research field and the practical promotion field of teaching scholarship. In the field of academic exploration, he strictly and standardized clarified the highly ambiguous and chaotic concepts in the teaching academic circle, promoted the teaching academic research from the discussion of "teaching" to the research of "learning", and proposed "academic teaching and learning", which it was a great leap forward in teaching and academic research. In the field of practice promotion, he served as the 8th chairman of the Carnegie Association for the Promotion of Teaching, formulated several incentive policy plans, promoted the widespread popularization of teaching academic research, and even promoted a comprehensive "big tent theory", forming a teaching academic the comprehensive growth and vigorous development of theoretical research and practical exploration.

Shulman, L.S. (1999, p.10) comprehensively expounded his teaching academic theory. In the development of academic research, Schulman's contribution with a turning point was to develop Boyer's "teaching scholarship" into "teaching and

learning scholarship", from the one-way focus and research on "teacher's teaching" to the development of simultaneous attention to "teacher's teaching". "Teaching" and "students' learning", thus made the connotation of teaching academics and research fields more complete. This also made academic research enter a new period of development. Schulman pointed out that academic teaching was not synonymous with good teaching, it needed a "traceability" of teaching and learning problems in which teachers formulated and systematically explored questions about student learning - the conditions under which learning occurs - what learning looks like, how it deepens, etc. Academic teaching was not only about publishing and criticizing teaching, but also exploring student learning. Teachers must not only focus on the problems in their own classroom teaching, but also improve and surpass. Academic teaching was not to stimulate curiosity or addition, but should be an essential feature of good teaching, as a vision for constructing academic practice. It was this emphasis on student learning in the teaching process that Schulman had realized the transfer of the integrity of teaching and the focus of academic research. He proposed that in teaching academic research, teachers should apply in-depth study of students' learning psychology and learning rules, explore the internal mechanism of students' learning, and take this as the core goal of teaching and teaching research. In addition, Schulman proposed that teachers should deeply understand and master effective teaching as well as the concept of deep learning, and apply them scientifically and effectively in teaching practice, so as to improve students' learning interest and learning quality. The academic theory of teaching and learning proposed by Schulman is helpful for us to examine the unidirectionality of domestic teaching research and strengthen it. The teaching reform and research based on the study of students' learning problems had important reference and enlightenment significance. At the same time, it also provided a theoretical basis and research perspective for us to establish observation standards to measure teachers' teaching academic ability in the research process.

Schulman believed that the knowledge base of teaching included the following types of knowledge: content knowledge, general teaching method knowledge, curriculum knowledge, subject teaching knowledge, knowledge about

learners and their characteristics, historical basis. Among these types of knowledge, the most unique and special significance was subject teaching knowledge, which can distinguish subject experts' understanding of subject knowledge from teachers' understanding of subject content. This type of knowledge integrates teaching content and teaching methods, and understands how specific topics, problems or problems were organized, represented, and presented in teaching to suit the diverse needed and abilities of different learners. Schulman, while proposing the important concept of disciplinary pedagogical knowledge, also pointed out 4 main sources of pedagogical knowledge base: 1) academic knowledge of the subject content taught, 2) materials and environment of organized educational process, 3) research on school education, social organization, human learning, teaching and development, and other social and cultural phenomena that affect teachers' behavior, 4) wisdom in practice. As its source, subject teaching knowledge and practical wisdom were the core knowledge and ability foundation of teachers' academic teaching. Schulman's theory was the core theoretical resource for studying teaching academic ability.

Shulman,L.S. (2011, p.30) also argued that for teaching to gain more recognition and appreciation, it must change its status "from a private good to a social asset". He also identified 3 initiatives to achieve the transition from "personal private goods" to "community wealth". The first was to rebuild the link between teaching and discipline also because "discipline" was a powerful pun indicating not only a field, but also a method. A disciplinary community was a group that promoted quality, exercised control, made judgments, evaluated, and defined paradigms. We must make it the responsibility of the academic community to critique, test, and support teaching. The second measure was to highlight the richness and complexity of teaching through the representation of teaching design. Without this design, teaching became dry ice, which disappeared at room temperature. The third move was that if something become an asset in academia and is therefore considered valuable, then that means we have an obligation to judge its value. Schulman proposed these measures to realize that "teaching becomes the wealth of society", so that people could understand more concretely the path and method of teaching scholarship. In addition, he emphasized the important value of collective teacher

collaboration in this process. In addition, Schulman highlighted 6 essential characteristics of community and related work: content replication, active learning, reflective practice, joint research, shared passion and commitment to materials, and a supportive culture.

Schulman's theory on the construction of teaching community and the transformation of teaching into "community wealth" played an important role, providing a practical path for the improvement and transformation of teaching academics. At the same time, it was also enlightening for teachers to build and form teaching academic ability through teachers' collectives and teaching communities. It could help teachers change the current isolated and closed teaching mode and state, seek collective cooperation, carry out teaching and academic research through the community, exchange and share results, and accept criticism and questioning. In the process, teaching academic ability could be formed in practice, and lasting professional development and growth could be obtained.

The original intention of teaching academic research was to change the isolation and closure of teachers in the current university classroom teaching, the silence and immediacy of teachers' teaching experience, and promote the explicit, academic, and shared nature of teachers' practical knowledge. Therefore, Schulman's theory of teaching as "community wealth" could provide theoretical support, which forms the theoretical basis of this study.

To sum up, Schulman advocated paying attention to students' learning in teaching academics, and believed that teachers must use systematic and academic methods to study how learning occurs, and regard it as the goal of their work, he also believed that teachers should seek the broader context of effective teaching and understanding of deep learning, group (small group) learning and their interactions could facilitate this serious, collaborative and collective scholarly work.

Concept of education administration

Frederick Taylor (1949, p.16) proposed that education administration was the process of using scientific methods and techniques to improve the efficiency of educational organizations and schools operate to ensure the achievement of

educational objectives and to enable students to achieve optimal learning outcomes.

Chen Xiaobin (2008, p.35) believed that educational management was a science, and a discipline that studied the process and laws of educational management. According to the characteristics of educational management objects, it could be roughly divided into two categories: comprehensive and narrow. Comprehensive education management focused on the management of the entire national education system, while narrow education management focused on the study of specific types of school organizations.

Zhang Tiantian (2023, p.32) pointed out that educational administrators had become an important part and key part of the higher education management system and had played an important role in improving the quality of talents.

Ren, B. (2023, p.43) believed that higher education management was the embodiment of the development of higher education and the requirement for high-quality talents, and the development of diversification and popularization provides opportunities for student education management. By optimizing and improving educational administration and strengthening management ability, it could provide strong support for the development of enterprises, create a good environment for the sustainable development of higher education, and improve the comprehensive strength of colleges and universities.

Guo Linning (2023, p.68) believed that educational managers were the key to ensure the normal conduct of all teaching activities in schools and were an important support for personnel training and moral education. Educational management had dual functions, including administrative management and academic management. It was very important to integrate ideological and political education into school education management to fully implement the people-oriented management idea and practice the task of moral education.

Shao Chen (2022, p.54) proposed that "people-oriented" was an important guarantee for the realization of higher education administration, as well as the goal of education management and the fundamental condition for training qualified talents.

Peng Yinyi (2023, p.18) pointed out that educational administration was an important task of the higher education system, which achieves development goals through the guidance of mature talents and balances the dual functions of administrative and academic management.

Yan Hongxiao (2023, p.131) believed that educational administration referred to the long-term and streamlined management of students' ideological and political work, including education, value guidance, class construction, career planning, employment, and entrepreneurship guidance. In this process, various means and resources were effectively used to regulate student behavior, safeguard students' rights and interests, improve employment levels, improve the quality of education in schools, and better provide services for talent development.

In short, the goal of educational management is to ensure the effective implementation of educational activities within an educational institution, school, or education system to achieve the desired educational objectives and quality requirements through the process of organizing, planning, coordinating, monitoring and evaluating various activities and resources. At the same time, education management is also committed to cultivating students' self-management and self-service capabilities.

Concepts and theory of teaching academic ability

Academic concept

Boyer, E.L. (1991, p.11) believed that: academics not only mean discovering knowledge, synthesizing knowledge, and applying knowledge, but also mean disseminating knowledge. Academic activities were not just about participating in research. University teachers also had to explore the interconnection between disciplines, combined theory with practice, and passed on the knowledge they had mastered to students through certain methods. For this reason, in Selected Speeches 1979-1995, he clearly divided scholarship into four interrelated aspects: inquiry scholarship, integration scholarship, applied scholarship, and teaching scholarship. Inquiry scholarship was close to the scientific research that people often mention, comprehensive scholarship was to establish disciplinary connections and place

specialized knowledge in a larger background for investigation, applied scholarship refers to both the application of scientific research results and the application of knowledge in practice. Application, the science of teaching, which educates the mind by imparting knowledge.

Teaching academic concepts

Boyer, E.L. (1991, p.11) believed that teaching scholarship referred to the scholarship that systematically studied the problems of teaching and learning, which was open and available for evaluation and comment, as well as had the characteristics of reflection.

Trigwell, K. et al. (2000, p.155) believed that teaching scholarship was divided into 3 aspects of work: research on existing teaching and learning knowledge, reflection on the teaching and learning of a - discipline, and the sharing of knowledge about teaching and learning within a discipline."

Kreber, C. et al. (2000, p.476) argued that teaching scholarship was the ongoing study of how to teach, and the demonstration of the results.

Wang Yuheng (2006, p.84) mentioned in "American University Teaching Academic Movement" that the Carnegie Foundation defined teaching scholarship as: teaching scholarship was to ask questions about teaching or learning problems, and to study the problems through appropriate methods, conduct research on scholarly issues based on application of disciplinary epistemology in practice, communication of results, self-reflection and peer review.

To sum up, teaching scholarship refers to the use of appropriate methods to extract central questions from teaching practice activities, research questions, apply research results to teaching practice, communicate and reflect with peers, and accept open evaluations from peers. This process is specifically aimed at exploring how teachers can improve the teaching quality system and how students can improve learning effects.

The concept of teaching academic ability

Trigwell, K. et al. (2000, p.155) constructed a teaching academic model measured from four dimensions: knowledge dimension, reflection dimension, communication dimension and concept dimension.

Xu Ping (2016, p.18) believed that teaching academic ability could be divided into "subject professional level, teaching practice ability, student learning."

Wanglan et al. (2018, p.95) believed that teaching academic ability included the ability to generate and disseminate teaching content knowledge, teaching evaluation and reflection ability, teaching research and innovation ability.

Zhou Ping & Chen Hong (2015, p.94) believed that teaching academic ability was the ability to take the teaching process of the university as the research object and realized the effective dissemination of course knowledge through course development and instructional design.

Hutchings, P., et al. (1999, p.10) believed that teaching academic ability was an ability to understand the difference between surface learning and deep learning, how to know how students learn and how to learn more effectively, and an ability to engage students and develop important learning styles for students.

Ochoa, A. (2011, p.100) believed that teaching academic ability was not only the ability of university teachers to publish teaching works in fields other than education, but also the ability to ask questions about teaching and learning and use methods suitable for the discipline to study ability.

Li Yue (2017, p.9) believed that teaching academic ability refers to the academic ability of teachers to reflect on the teaching process, openly communicate teaching research results, and innovated and developed teaching during teaching.

Yang Qing (2018, p.18) believed that teaching academic ability was a kind of academic research on teachers' teaching and students' learning under the premise of teachers' professional knowledge, teaching skills, and pedagogical knowledge, with students as the center.

Zhou ping (2015, p.94) believed that teaching academic ability was a kind of ability with a high degree of academic ability that is reflected by teachers who were oriented to improve the quality of education and teaching and engage in teaching and research according to academic research methods.

Zhou yurong & Liyumei (2015, p.78) believed that teaching academic ability embodied the unity of teaching and scientific research, transcended the debate on the importance of teaching and scientific research, and was the ability that university

teachers should possess when engaging in teaching activities and carrying out teaching and academic research.

Gu muyong (2018, p.65) believed that teaching academic ability was a kind of practical wisdom generated by teachers using theory to reflect on teaching practice.

Li Zhihe et al. (2020, p.81) believed that teaching academic ability was guided by teaching academic ideas, based on subject knowledge and teaching knowledge, paying attention to teachers' teaching and students' learning in the teaching process, and adopting a systematic approach. It was a comprehensive ability system that applied teaching design and teaching research to classroom teaching to form open, communicative and practical teaching procedures or teaching results, thereby promoting the comprehensive development of students and the improvement of teachers' professional ability.

Fanghanel et al. (2016, p.29) believed that teaching academic ability was the systematic study of teaching using established or valid academic standards in order to understand teaching (How beliefs, behaviors, attitudes and values) could maximize learning, enhanced a more accurate understanding of learning, and generated research findings that could be evaluated and used by the community.

Liangdan (2016, p.20) believed that teaching academic ability included profound professional knowledge, related subject knowledge, necessary educational theoretical knowledge, teaching ability, teaching research ability, practical ability, and innovation ability. Teachers in higher vocational colleges should guide students in terms of learning skills and strategies in a targeted manner, grasp the scientific system and logic system of the curriculum, mastered the important and difficult points of textbooks, applied educational theory to teaching practice, conveyed academic value, and inspired students' spirit of discovery and inquired.

Liu Ji (2022, p.54) believed that teaching academic ability not only included specialized academic knowledge and academic ability, but also covered subject teaching ability integrated and transformed from "subject content-teaching method", the core of which was curriculum development and instructional design ability. Teaching academic ability highlighted distinctive practicality, integration, and developmental characteristics.

Liu Xuemei (2017, p.83) believed that teaching academic ability included innovation, the qualities of both engineering and teaching, communication, open sharing, and other abilities.

Table 2.1 The results of the synthesis of teaching academic ability characteristics

Characteristics of teaching academic ability	Ernest Boyer (1990)	Shulman (1999)	Kreber (2002)	Trigwell, K.(2000)	Rice, RE (2000)	Nicholls (2004)	Weston (2001)	Songyan (2011)	Liangdan (2016)	Liu Xuemei (2017)	Total
Teaching academic concept				√			√	√	√	√	5
Professional knowledgeability	√	√		√	√	√	√	√	√		8
Communication activity ability	√	√	√	√	√	√	√	√	√	√	10
Reflection and inquiry ability	√	√	√	√	√	√	√	√	√		9
Innovation and application ability						√	√	√	√	√	5
The qualities of both engineering and teaching.									√	√	2

According to Table 2.1, the researcher analyzed and refined the relevant documents, concepts, theories, and related research on the teaching academic ability of the school. The researcher selected the corresponding characteristics according to the standard as the research framework. The researcher selected the characteristics with a frequency of 5 or more. It contains 5 features as follows: 1) teaching academic concept, 2) professional knowledge ability, 3) communication activity ability, 4) reflection and inquiry ability, and 5) innovation and application ability.

Context of higher vocational colleges

Overview of the development of vocational education in China

In 1985, higher vocational education was formally incorporated into China's national education system. The "Decision of the Central Committee of the Communist Party of China on the Reform of the Educational System" clearly stated for the first time that actively develop higher vocational technical colleges, and gradually establish a system from primary to advanced, with supporting industries and a reasonable structure. A vocational and technical education system that can communicate with general education. In 1996, China promulgated and implemented the "Vocational Education Law", of which article 13 stipulates: "Vocational school education is divided into elementary, secondary, and higher vocational school education." In July 2002, the "Decision of the State Council on Vigorously Promoting the Reform and Development of Vocational Education" pointed out that "under the new situation of China's entry into the World Trade Organization and the rapid development of economic globalization, we must pay close attention to vocational education and achieve results." As a result, education had attracted the attention of the education community, shouldering the dual mission of leading the development of vocational education and adjusting the structure of higher education, which not only promotes the sustained and rapid development of the economy and society, but also improves the quality of human capital and promotes the reform and innovation of vocational education. Jobs provide high-quality labor for the transformation of the economic development mode, make the employment structure increasingly harmonious and meet the needs of economic development. At present, there are about 1,300 higher vocational colleges in China, and higher vocational education had accounted for 40% of the total higher education in China. In 2022, there were 49 higher vocational colleges in Guangxi, with 640,000 students and 33,938 faculty members.

Positioning of higher vocational colleges

Due to different types, different orientations, different talents, and different talents, the subjects in universities have different understandings in teaching. This will inevitably affect and even determine the status and implementation of different

university teaching academics. Therefore, to explore the constituent elements of teachers' ability in higher vocational colleges, we must first analyze the orientation and teaching characteristics of higher vocational colleges.

Article 2 of the Vocational Education Law stipulates that vocational education refers to education aimed at cultivating high-quality technical and technical personnel and enabling the educated to have the professional ethics, scientific culture and professional knowledge required to engage in certain occupations. Career or achieve professional development. Education based on vocational comprehensive qualities such as knowledge and technical skills and action ability, including vocational school education and vocational training. Economic and social development puts forward new requirements for high-quality technical skills, especially high-level technical and technical personnel. There are also specific requirements for compound innovative technical skills and shortage of technical skills. The "high" here mainly refers to the cultivation of multi-skilled talents who are more professional in their positions. This is the characteristic of some positions under the transformation of industrial production methods and organizational methods in the intelligent age. The comprehensiveness and complexity of the work that graduates are engaged in is the integration of real professional activities from the experience level to the strategic level. Therefore, higher vocational education should explore and practice from the aspects of education level, professional structure optimization, curriculum teaching update, technical content structure, etc., so that its talents can truly meet the needs of economic and social development.

Teaching features of higher vocational colleges

The teaching content of higher vocational colleges focuses on applicability, complexity and cutting-edge. Vocational education is based on the employment of students, with the goal of cultivating high-skilled talents, based on ability, and attaches great importance to the cultivation of practical ability. It is essentially a quality construct of knowledge, skills, and attitudes. This quality structure mainly includes four aspects: one is the basic skills or hands-on ability necessary to complete professional tasks, and the requirements for operational skills are higher, the other is the basic qualities that professional tasks should possess. It is the

adaptability and flexibility of employment in professional positions, and it is necessary to cultivate students' professional development ability, fourth, the innovative spirit and development ability of technology application. At the same time, the training of students in higher vocational colleges emphasizes keeping up with cutting-edge issues and cutting-edge technologies in the professional field. The current production technology and process are developing rapidly. In order to enable graduates to adapt to jobs as soon as possible, the curriculum setting of higher vocational colleges should also closely follow the dynamics of local industrial structure upgrading and adjustment, see the development trend clearly, cooperate closely with enterprises and factories, and absorb the latest production technology and process in a timely manner, to update the teaching content. Therefore, in the actual teaching, teachers should timely supplement the teaching content such as the development of industry technology, the latest research results of applied technology, typical cases of actual engineering and management, and practical ability standards. In addition, with the vigorous rise of the new economy, disciplines and professional fields will gradually break the state of interdependence and independent development. Emerging engineering technologies and engineering models will point to cross-development and integration of multiple fields. As the main force of talents to adapt to the construction of "new engineering" in the future, higher vocational colleges are very important to cultivate students' cross-border thinking ability and innovative development ability. Therefore, the compound teaching content should also be reflected in the teacher's knowledge structure.

China's policies on the construction and capacity building of teachers in higher vocational colleges

This study sorts out China's policies on team building and capacity requirements for teachers in higher vocational colleges in the past 5 years.

Table 2.2 Vocational education policies on vocational teacher team construction and ability requirements in the Past 5 Years

Time	File name	Content	Higher vocational teachers' ability requirements
April 20, 2022	Vocational Education Law of the People's Republic of China	Article 46 Vocational school teachers (including internship instructors) (including internship instructors) should have certain work experience or practical experience for a certain period of time and have reached the corresponding level of technical skills.	Skill levels
December 21, 2022	The General Office of the CPC Central Committee and the State Council issued opinions on deepening the construction and reform of the modern vocational education system	Strengthen the construction of " The qualities of both engineering and teaching. " Teacher team. Strengthen the construction of teachers' ethics and ethics, and effectively improve teachers' ideological and political quality and professional ethics. Relying on leading enterprises and high-level colleges and universities, build several national vocational educations " The qualities of both engineering and teaching. " teacher training bases, develop vocational education teacher training curriculum system, and carry out customized and personalized training and training . Carry out activities to improve	1. The qualities of both engineering and teaching. 2. Educational promotion

Table 2.2 (Continued)

Time	File name	Content	Higher vocational teachers' ability requirements
		the academic qualifications of vocational schoolteachers, and carry out targeted postgraduate training for vocational school teachers with professional degrees	
October 12, 2021	The General Office of the CPC Central Committee and the State Council issued the "Opinions on Promoting the High-Quality Development of Modern Vocational Education"	Deepen education and teaching reform. (13) Strengthen the qualities of both engineering and teaching. Teacher construction. Strengthen the construction of teachers' ethics and ethics, and comprehensively improve the quality of teachers. (14) Innovative teaching models and methods. Widely carry out project teaching, situational teaching, and modular teaching, promote the deep integration of modern information technology and education and teaching, and improve the quality of classroom teaching. Fully implement flexible learning and credit system management, and support students to actively participate in social practice, innovation and entrepreneurship, and competitions. Hold the National Vocational College Skills Competition.	1. The qualities of both engineering and teaching. 2. Enterprise practice 3. Deep integration of modern information technology and education and teaching 4. Vocational skill level certificate training ability 5. Update teaching standards according to new technologies

Table 2.2 (Continued)

Time	File name	Content	Higher vocational teachers' ability requirements
		<p>(15) Improve teaching content and teaching materials. Improve the comprehensive education mechanism of "job competition certificate", design and develop courses according to actual production and job requirements, develop a modular and systematic training course system, and improve students' practical ability. In-depth implementation of the vocational skill level certificate system, improvement of certification management methods, and strengthening of interim and post-event supervision. Update the teaching standards in time, and incorporate new technologies, new processes, new norms and typical production cases into the teaching content in a timely manner.</p> <p>Incorporate the advanced standards reflected in vocational skill level certificates into the talent training plan.</p>	

Table 2.2 (Continued)

Time	File name	Content	Higher vocational teachers' ability requirements
January 4, 2019	National Vocational Education Reform Implementation Plan	<p>Specific indicators: By 2022 " The qualities of both engineering and teaching. " Teachers (teachers with both theoretical teaching ability and practical teaching ability) account for more than half of the total number of professional courses teachers and have a group of national vocational education teachers. According to professional construction teaching Innovation team.</p> <p>(12) Take multiple measures to build" The qualities of both engineering and teaching. " Teacher team. Implement the quality improvement plan for teachers in vocational colleges and establish 100 " The qualities of both engineering and teaching. " Teacher training and training bases. Teachers from higher vocational colleges and application-oriented undergraduate colleges go to enterprises or training bases for at least one month of training each year and implement a five-year rotation training system for all teachers. Explore the establishment of a high-level and</p>	<ol style="list-style-type: none"> 1. The qualities of both engineering and teaching. 2. Practical skills 3. Division of labor assistance 4. International perspective

Table 2.2 (Continued)

Time	File name	Content	Higher vocational teachers' ability requirements
		structured teacher teaching innovation team, and teachers will divide and cooperate to carry out modular teaching. Regularly organize and send key professional teachers at vocational colleges to study abroad.	
January 20, 2018	Opinions of the Central Committee of the Communist Party of China and the State Council on Comprehensively Deepening the Reform of Teacher Team Construction in the New Era	13. Improve the quality of teachers in vocational colleges and build a high-quality teacher team. Continue to implement the quality improvement plan for the teaching staff of vocational colleges and lead the construction of a team of high-skilled teachers combining full-time and part-time jobs. The qualities of both engineering and teaching. Strengthen the construction of vocational and technical normal colleges, support high-level schools and large and medium-sized enterprises to jointly build the qualities of both engineering and teaching. teacher training bases and establish a mechanism for joint training of the qualities of both engineering and teaching. Competent teachers. Effectively promote teachers at vocational colleges to regularly	1. The qualities of both engineering and teaching. 2. Practical ability 3. Teaching ability 4. Reform and innovation capabilities

Table 2.2 (Continued)

Time	File name	Content	Higher vocational teachers' ability requirements
		<p>practice in enterprises, and continuously improve their practical teaching ability. Establish a part-time system for enterprise managers, technical experts, vocational school managers and key teachers.</p> <p>14. Comprehensively improve the quality of teachers in colleges and universities and build a team of high-quality and innovative teachers. Efforts should be made to improve the professional ability of teachers and promote the connotative development of higher education. Build a school-level teacher development platform, organize scientific research training activities, carry out teaching research and guidance, and promote teaching reform and innovation. Strengthen the construction of learning communities such as teaching and research sections of departments and establish and improve the tutor mechanism. Carry out comprehensive training to improve the teaching ability of college</p>	

Table 2.2 (Continued)

Time	File name	Content	Higher vocational teachers' ability requirements
September 5, 2019	Deepen the new era of vocational education "The qualities of both engineering and teaching." Teacher construction implementation plan	<p>teachers.</p> <p>8. Create a high-level structured teaching innovation team for teachers, build a teaching innovation team of 360 national vocational education teachers by year, batch and major, comprehensively improve teachers' teaching, training, evaluation ability and teamwork ability, and improve compound Provide a strong guarantee for the quality of training technical and skilled personnel.</p> <p>9. Carry out teacher training around the 1+xcertificate system. Comprehensively improve teachers' information-based teaching capabilities and promote the integration and innovation of information technology and education and teaching. Improve the vocational education teacher training system and promote "The qualities of both engineering and teaching." The teacher training and training base provides support and services in teacher training, team building, scientific research, teaching and research, and resource development.</p>	<p>1. The qualities of both engineering and teaching.</p> <p>2. Training ability</p> <p>3. Assess ability</p> <p>4. Team assistance ability</p> <p>5. Scientific research, teaching, and scientific research capabilities</p> <p>6. Informatizati on teaching ability</p> <p>7. Teaching ability</p>

It can be seen from the policy that the state proposes the qualities of both engineering and teaching, training ability, scientific research and teaching ability, information-based teaching ability, teaching ability, etc. The teachers in higher vocational colleges were required the qualities of both engineering and teaching especially. Five of the six policies emphasize the qualities of both engineering and teaching.

The structural dimensions of teachers' teaching academic ability in higher vocational colleges.

To construct the theoretical framework of this study, this study mainly adopts two methods based on the existing theoretical basis:

First, referring to Schulman's teaching academic theory, combined with China's "Vocational Education Law" and the positioning of higher vocational colleges, as well as the positioning and teaching characteristics of higher vocational education, the structural framework of teaching academic ability of higher vocational teachers is initially constructed. Secondly, combined with the literature review, in-depth analysis of the connotation and structural framework of existing research, the core elements of teaching academic ability of higher vocational teachers are extracted, and the theoretical framework of teaching academic ability of higher vocational teachers is constructed, including six dimensions: Teaching academic concept, professional knowledge ability, communication activity ability, reflection and inquiry ability, innovation and application ability, the qualities of both engineering and teaching, the specific content is analyzed as follows:

1) Teaching academic concept

The concept is the forerunner of action and guides the behavior of teachers. The teaching academic concept dimension should mainly include teachers' teaching concepts and academic concepts. With the changes of the times, educational and teaching concepts and academic concepts are constantly developing. Teachers must constantly absorb and understand new ideas, and update and develop old ideas. This is the premise for teachers to carry out teaching and learning. In addition, the teaching methods of higher vocational colleges are different from those of ordinary

undergraduate colleges. Teachers at higher vocational colleges should also establish a teaching philosophy consistent with the training objectives, recognize and pay attention to the importance of practical teaching, and reverse the traditional "books" and "Theory" lecture-style teaching method. Secondly, the development of teachers' teaching academics not only needs to keep pace with the times, but also needs to establish an open academic concept, and realize that teaching, as a means and method of knowledge dissemination, also had the value of academic research itself. This kind of conceptual recognition is also the premise that teachers are willing to carry out teaching research.

2) Professional knowledge ability

Professional knowledge ability is an important part of teachers' teaching academic ability, including comprehensive ability, subject education knowledge and acquired knowledge. The comprehensive ability here refers to the teacher's mastery of subject content knowledge and educational knowledge. Subject educational knowledge is located at the connection point between subject content knowledge and educational knowledge. Subject knowledge refers to the professional knowledge and general cultural knowledge taught by subject teachers, which is the basis for teachers to carry out subject teaching. At the same time, although teachers of different majors have different teaching emphases, teachers in higher vocational colleges should still understand the most cutting-edge new theories and new knowledge in the professional field. Pedagogy knowledge includes the basic theories of teaching, teaching methods, teaching ideas, etc., which are related to how teachers can impart subject knowledge to students more effectively. Subject teaching knowledge is an organic combination of subject knowledge and educational knowledge. Based on students' certain understanding, subject knowledge was processed in educational psychology to generate educational knowledge types. For teachers, it was necessary to integrate their subject knowledge into continuous teaching and learning practice and choose a method that was suitable for students and easy for students to accept. In this process, teachers can not only consolidate their own subject knowledge system, but also may appear new subject knowledge growth points in practice.

3) Communication activity ability

The life of academia lies in the exchange and collision of ideas between disciplines. Only through communication can academics gain wide recognition and continuous development. Communication included two parts: teacher-student communication and peer communication. To achieve smooth communication between teachers and students, teachers must have strong communication skills. Including fluent expression ability, affinity to students and ability of communication and guidance. Therefore, from the perspective of the breadth of communication, it mainly includes discussions between teachers on open classes, mutual lectures, and classroom evaluations, discussions between teachers and students on teaching content, teaching methods, and teaching effects. From the perspective of in-depth communication, it mainly examines whether there is a teaching seminar group. Teachers can conduct in-depth exchanges through the group, raise their own questions or indirectly raise questions about teaching problems, and promote common development.

4) Reflection and inquiry ability

It involves reflection on teaching knowledge, pedagogical knowledge, curriculum knowledge, etc., as well as reflection on the teaching process and teaching premise. Therefore, academic Reflection and inquiry ability mainly examines the reflective teaching process and reflective teaching results in teaching. The former is mainly teachers' retrospective thinking and exploratory research on their own teaching behaviors, reflections on curriculum design, teaching content and teaching methods, and reflections on teaching effects. Through a series of reflection activities, teachers can discover and solve problems in teaching practice, and realize the improvement of self-teaching ability. The latter mainly means that after a series of reflections on the teaching process, teachers will have a certain understanding and experience in teaching, and conduct theoretical research based on this understanding and experience and produce valuable theoretical results.

5) Innovation and application ability

The application dimension of teaching and learning innovation mainly includes conceptual innovation and practical innovation. Conceptual innovation

means that teachers constantly absorb and understand new ideas, update and develop old educational concepts, and innovate their own teaching methods and evaluation methods in combination with the needs of the times. Practical innovation mainly examines teachers' ability to master new technologies with the development of the times and their ability to apply them to teaching. Teaching scholarship is the creative research achievement of teachers. Teachers in higher vocational colleges should have innovative ideas and an open mind, apply innovative ideas to academic teaching, exercise innovative ability in practice, and continuously promote the development of teaching theory and practice.

6) The qualities of both engineering and teaching

According to the connotation of the construction of teaching staff in the evaluation indicators of higher vocational colleges, quality teachers not only refer to rich theoretical knowledge and high teaching level, but also have strong professional practical ability and rich experience. Practical work experience. The quality of teachers is organically combined with the quality of engineers. At the same time, he had a teacher qualification certificate and a vocational skills registration certificate.

Determination of the structural dimensions of teaching academic ability of higher vocational teachers.

Combined with literature review, analysis the policies on vocational teacher team construction and ability Requirements, and design of the structure of teaching academic ability of higher vocational teachers' dimensions provide convenience for investigation and research. Teaching academic concept, Professional knowledge ability, Communication activity ability, Reflection and inquiry ability, Innovation and application ability, The qualities of both engineering and teaching and other 6 first-level dimensions and 14 second-level dimensions. The specific structure is as follows:

Table 2.3 The structural dimensions and index factors of teaching academic ability of higher vocational college teachers

Dimension	Secondary dimension	Main content description
Teaching academic concept	Concept of teaching	<p>1. Teachers should establish the concept of people-oriented and all-round development in teaching, take students as the center, treat teaching from the perspective of learning, pay attention to the differences among students, and teach students according to their aptitude de.</p> <p>2. Realize that vocational college teaching highlights the characteristics of practice, establish the teaching concept in line with the training objectives, and attach importance to the position of practical teaching.</p>
	Academic point of view	Establish a comprehensive and open academic view, understand, and recognize teaching academic ideas, with an open mind and innovative thinking
Professional knowledge ability	Subject knowledge	Have a basic grasp of professional theoretical knowledge and applied knowledge of this subject, and have dabbled in cutting-edge new knowledge, new processes, new technologies and new methods in the professional field
	Pedagogy knowledge	It mainly includes the basic theory of pedagogy, teaching method, student psychology and advanced educational teaching thoughts.

Table 2.3 (Continued)

Dimension	Secondary dimension	Main content description
Professional knowledge ability	Pedagogical content knowledge	The subject teaching knowledge which not only conforms to students' learning characteristics, but also has individual characteristics should be formed, and perfected and developed continuously in teaching practice.
	Practical knowledge	The teaching characteristics of higher vocational colleges require teachers to have solid professional practical knowledge
Communication activity ability	Breadth of communication	<ol style="list-style-type: none"> 1. Communication in the micro sense refers to the open class, teaching discussion such as mutual listening and class evaluation among teachers, 2. Communication in the mesoscopic sense refers to teaching seminars organized at the college or school level, 3. Teaching exchange in a macro sense refers to teaching or outcomes exchange on a regional, national, or even international scale.
	Depth of communication	An organized teaching community is formed, with regular communication frequency, in-depth content, and honest attitude
	Communication mode	<ol style="list-style-type: none"> 1. Formal forms of communication include discussion reports, conference speeches, achievement reports and published journal papers, 2. Informal communication forms include lectures and conversations among teachers, as well as communication by means of modern and developed information technology, such as microblog, WeChat, QQ

Table 2.3 (Continued)

Dimension	Secondary dimension	Main content description
Reflection and inquiry ability	Reflective process	group, etc. For the reflection of curriculum design (lesson preparation process), the reflection of teaching content and teaching method (teaching process), and the reflection of teaching effect (self-evaluation process). Through a series of reflective activities, teachers can find and solve problems in teaching practice and realize the improvement of self-teaching ability.
	Reflect on teaching results	Elevating the content of reflection from simple self-reflection to generating effective and valuable research results. Including a variety of forms of teaching results and teaching academic results.
Innovation and application ability	Conceptual innovation	Teachers constantly absorb and understand new ideas, update, and develop old educational ideas, combine with the needs of The Times, innovate their own teaching methods and evaluation methods.
	Innovation in practice	It mainly examines teachers' ability to master the new technology with the development of The Times and their ability to apply it to teaching.
The qualities of both engineering and teaching	Both abilities are indispensable	The ability of teachers with intermediate professional titles and the ability to combine production and teaching. It mainly examines whether teachers have both teaching ability and social service ability, the ability to serve enterprises, the ability to promote industry development and the ability to serve regional industry development

Related Research

Foreign research on strategies to improve teaching academic ability.

In the United States, increase the weight of teaching in teacher promotion and rewards. Salary increases, tenure, and promotions are important mechanisms for rewarding and recognizing the academic excellence of teaching. Some institutions have formally included teaching academics in the promotion and tenure review guidelines, revised existing guidelines and standards, and explored different tenure evaluation systems to increase teaching weight. Kent State reforms the job of faculty. To motivate teachers to conduct teaching research, creative projects and other academic activities, it provides teachers with one-on-one services, provides perennial studios, helps teachers comply with federal, state and school institutional and policy research, and the University Research Council provides teachers and students with opportunities for financial support are available.

The exchange of teaching academic achievements for peer evaluation is also one of the important contents of university teaching academics. The best peer assessment model is that developed by Russell Edgerton, Pat Hutchins, and Schulman, which uses students' understanding of a course as an indicator of successful teaching. In applying this model, the professor describes the objectives of the course and then provides a sample of assignments, the students' actual grades, and the distribution of students' grades at the time the assignments were formulated. Classmates commented on the appropriateness of these efforts and the level and quality of student work based on their own teaching experiences. After five years of peer-evaluation group work, the University of Nebraska found that this model improves the quality of faculty teaching. Teachers have also become more active in sharing knowledge about how to teach effectively.

To enhance academic competence in teaching through multiple channels and levels through programs that support academic competence. For example, the University of Miami also initiated four regional conferences through the International Teachers and Scholars Alliance and published the "Journal of University Teaching Excellence", which provided a good communication platform for academic discussions on teaching in American universities, peer reviewed and multidisciplinary

exchanged. Established a school-level university teaching and academic support system, shared resources, and jointly carried out activities to promote university teaching and academic development. The Faculty for Excellence in Teaching (FACET) of the Indiana University State University System was a typical academic support organization for intercollegiate teaching. Since 1989, the association had selected 20-25 people with outstanding teaching and academic achievements from each branch school as members every year and had attracted more than 600 members so far. The association carried out a series of activities to support member institutions to carry out university teaching and academic activities.

The University of Wisconsin had established a reasonable teacher salary system and teaching academic evaluation system in the construction of the teaching academic system. Provided new research avenues and opportunities for collaboration, addressed complex societal issues, social needs and developed Wisconsin ideas through interdisciplinary research, teacher, and serviced, encouraged, and facilitated collaboration among competent departments, created new courses, assisted the university in fulfilling its other missions, particularly increased diversity on campus. In terms of school management system construction, the University of Wisconsin actively built a learning community and created a good teaching and academic atmosphere. Through the construction of these platforms, it was convenient for teachers to push academic information on teaching and learning, to facilitate free communication among teachers, and to encourage teachers to share academic achievements.

A review of academic research on teaching in China

The CNKI database retrieved 500 "teaching academic" papers published from 2012 to 2022. Judged from the trend chart of published papers, as shown in Figure 2.1, it reached its peak in 2020, which was related to the background of my country's "Double First-Class University" construction and strengthened the teaching quality of colleges and universities. Judged from the distribution of disciplines, as shown in Figure 2.2, academic research on higher education teaching accounts for 74.5%, while academic research on vocational education teaching accounts for 3.29%. There were few papers on academic research on teaching of higher vocational teachers in Guangxi.

Among the retrieved papers, Song Yan (2011, p.120), Wang Guilin (2012, p.103), Zhou Guangli & Ma Haiquan (2013, p.37), Qi Shanshan & Yao Limin (2004, p.28), Geng Bingbing (2002, p.60), Gu Murong (2018, p.65), Zhang Yuqing (2014, p.43), Zhou Yonghuang & Zhao Min (2007, p.77), Yu Yulong (2012, p.33) researched teaching academic abilities' status and development countermeasures. Yao Limin (2010, p.102) analyzed the value of academic teaching, and Wang Guilin (2012, p.103) summarized the research on academic teaching in domestic colleges and universities. Bie Dunrong, Wei Lina & Li Jiaxin (2015, p.41), Wu Hongfu (2014, p.45), Cao Qilin (2013, p.91), starting from improving the functions of the teacher development center, improving teachers' teaching academic ability and its path. Wang Guilin (2012, p.103) clearly stated that academic teaching was the basic choice for the professional development of teachers in normal universities.

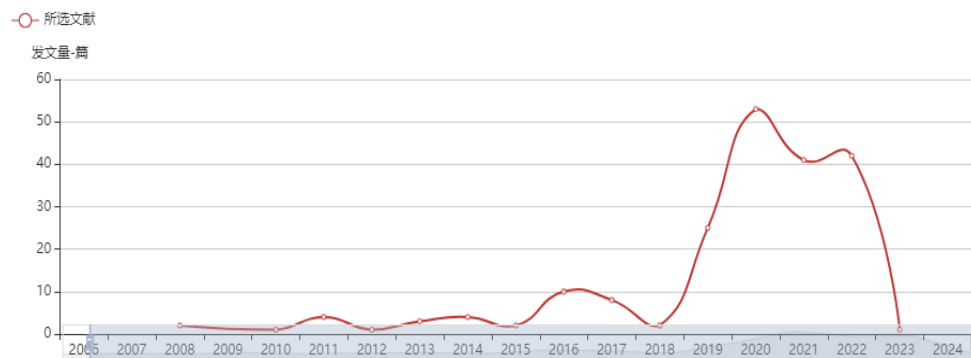


Figure 2.1 Overall trend analysis

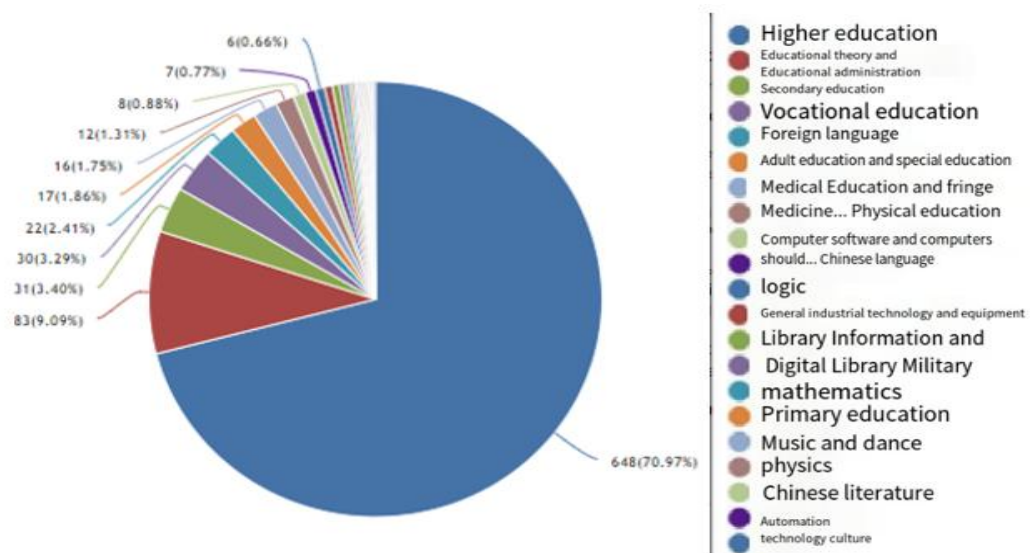


Figure 2.2 Discipline distribution

Research on the practice status and development of university teachers' teaching academic ability in China.

Compared with foreign teaching academic research, China's teaching academic research is still in its infancy, and scholars mainly focus on the practice status and development research of university teachers' teaching academic ability.

Shi Jinghuan et al. (2011, p.52) conducted a survey on the composition of existing teachers in Chinese universities by sending out questionnaires to teachers in 44 universities. The survey was carried out from 6 aspects: age and teaching input of teachers, basic attitudes of teachers to teaching and scientific research, views on the current management and evaluation system of colleges and universities, and attractiveness of teaching positions. And the situation of teachers' morality. It was pointed out that the teaching and learning promotion system of teachers in colleges and universities in my country was not yet perfect. Song Yan (2013, p.79) based on the theory of "four dimensions" of university teaching academics, compiled the questionnaire of "Survey on the Current Situation of Chinese University Teaching Academic Level", selected university teachers from 19 undergraduate colleges as survey samples, and analyzed the current situation of university teachers. The academic level of teaching was surveyed. The mastery of knowledge, the scope of

autonomy and the frequency of research exchanges in teaching practice activities. Finally, understand the teaching academic level and ability of current university teachers in our country. Wei Ge (2014,p.17) found through the "Questionnaire Survey" that the teaching and academic level of Peking University teachers was generally good, but the imperfect management system was the main reason hindering their better development. "Teacher Teaching Academic Level" was compiled. There was no significant difference in the teaching academic level of teachers with different teaching majors. Therefore, academic teaching may become a new platform to break down the barriers of interdisciplinary communication.

Chapter 3

Research Methods

This research focuses on the improvement of teachers' teaching and academic ability in higher vocational colleges in Guangxi. To study the current situation and provide guidelines and evaluation guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The following steps were taken by the researchers:

1. The population/The sample group
2. Research instruments
3. Data collection
4. Data analysis

The Population/The sample group

The population

The population of this research was 3938 teachers from 4 higher vocational colleges in Guangxi.

The sample group

According to the Krejcie and Morgan sampling table, the sample group of this study is 351 teachers from four higher vocational colleges in Guangxi. The four higher vocational colleges include Guangxi Vocational and Technical College, Guangxi Performing Arts Vocational College, Guangxi Industrial Engineering Vocational and Technical College, and Guangxi Logistics Engineering Vocational and Technical College. By using the method of stratified random sampling, samples were collected from teachers in vocational colleges in Guangxi.

Table 3.1 Sample group table

No.	Higher vocational colleges in Guangxi	Population	Sample
1	Guangxi Vocational and Technical College	1345	120
2	Guangxi Industrial Engineering Vocational and Technical College	1008	90
3	Guangxi Logistics Engineering Vocational and Technical College.	818	73
4	Guangxi Performing Arts Vocational College	767	68
Total		3938	351

The respondents to the study were 12 experts, including the head of the academic affairs office, the head of the personnel department, and the professional teachers of Guangxi's higher vocational colleges. The qualification requirements of the interviewees are as follows: 1) being associate professor or higher academic title, and 2) engaged in vocational education for over 10 years.

The experts who evaluated the feasibility of the guidelines to improve the academic ability of teachers' in higher vocational colleges in Guangxi were three high-level experts from Guangxi. The qualification requirements of the experts are as follows: 1) engaged in vocational education for over 15 years, 2) had valuable experience in education management, and 3) being associate professor or higher academic title.

Research Instruments

Questionnaire

The instrument to collect the data for objective 1, to study the current situation of teaching and academic ability of teachers in higher vocational colleges in Guangxi was a questionnaire. The questionnaire which was designed based on teaching academic ability was divided into the following 6 aspects: 1) teaching academic concept, 2) professional knowledge ability, 3) communication activity ability, 4) reflection and inquiry ability, 5) innovative thinking ability, 6) the qualities of

both engineering and teaching. The questionnaire was provided in two parts:

Part 1: Survey the respondents' personal information, sorted by gender, age, educational background, teaching years and academic title.

Part 2: Investigation on the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi. There were 9 questions of teaching academic concept, 8 questions of professional knowledge, 10 questions of communication activity ability, 8 questions of reflection and exploration ability, 8 questions of innovation and application ability, and 10 questions of the qualities of both engineering and teaching. There were 53 questions in total. The criteria for data interpretation based on five-point Likerts' scale, as follows:

5 express the level of teachers' teaching academic ability were at strongly high level

4 express the level of teachers' teaching academic ability were at high level

3 express the level of teachers' teaching academic ability were at medium level

2 express the level of teachers' teaching academic ability were at low level

1 express the level of teachers' teaching academic ability were at strongly low level

Constructing questionnaire processes

The questionnaire construction processes were as follows:

Step 1: Reviewed and analyzed the literature, concepts, theories and research related to the teaching academic ability of university teachers.

Step 2: Constructed a questionnaire on the current situation of teachers' teaching academic ability in higher vocational colleges in Guangxi. Then the questionnaire outline should be sent to the thesis advisor, and the content should be reviewed and modified according to the suggestions.

Step 3: The objective consistency index (IOC) of the questionnaire was tested by 3 experts. The objective agreement index (IOC) ranged from 0.67 to 1.00.

Step 4: Modified the questionnaire according to expert advice.

Step 5: The questionnaire was sent to 40 teachers in higher vocational colleges in Guangxi for pre-investigation. The reliability of the questionnaire was obtained by Cronbach's Alpha coefficient, which was 0.913.

Step 6: A questionnaire survey was conducted among 351 teachers from 4 higher vocational colleges in Guangxi.

Structured interview

This tool was used to collect data for objective 2. The study conducted structured interviews with teaching administrators, human resource managers and professional teachers in higher vocational colleges in Guangxi. The main contents of the interviews were carried out around the following six themes: 1) views on the current situation of teachers' teaching academic concept and suggestions on improving teaching academic concept, 2) views on the current situation of teachers' professional knowledge and ability and suggestions for improving their professional knowledge and ability, 3) views on the current situation of teachers' ability to communicate and suggestions on improving teachers' ability to communicate, 4) views on the current situation of teachers' ability of reflection and inquiry, and suggestions on the improvement of teachers' ability of reflection and inquiry, 5) views on the current situation of teachers' innovative application ability and suggestions on improving teachers' innovative application ability, 6) views on the current situation of teachers' qualities of both engineering and teaching and suggestions on the improvement of teachers' qualities of both engineering and teaching. A total of 12 experts were interviewed. The results of the interviews were processed, and serve as the basis for the development of the guidelines.

Evaluation form

This tool was used to gather data for objective 3. This study evaluated the feasibility of the implementation of the guidelines for Improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. A total of 3 experts were invited. The data interpretation for average value based on Rensis Likert (1932). The interpretation of the data is as follows.

4.50 - 5.00	indicates the highest level
3.50 - 4.49	indicates high level
2.50 - 3.49	indicates medium level
1.50 - 2.49	indicates low level
1.00 - 1.49	indicates lowest level

Data Collection

Data collection for objective 1: to study the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi. Taked the following steps:

Step 1: The researcher requested a requirement letter from the graduate school of Bansomdejchaopraya Rajabhat University for requiring to collect the data from 351 teachers in higher vocational colleges in Guangxi.

Step 2: The researchers distributed questionnaires to 351 teachers. A total of 351 questionnaires could be returned, accounting for 100%.

Data collection for objective 2: To provide guidelines for the improvement of teaching and academic ability of teachers in higher vocational colleges in Guangxi. Taked the following steps:

Step 1: The researcher created the interview questionnaire.

Step 2: The researcher sent invitation letters to the interviewees who participated in proposing strategies.

Step 3: The researcher conducted interviews with 12 participants, each lasting no less than 30 minutes.

Data collection for objective3: To evaluate the feasibility of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. Take the following steps:

Step1: The researcher created an evaluation form regarding guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.

Step 2: The researcher Invited experts to fill out the evaluation form.

Step 3: The researcher summarized and analyzed the results of the evaluation form.

Data Analysis

The data analysis in this research, the researcher analyzed the data by package program, as follows:

Step1: The personal information of the respondents was analyzed by frequency and percentage, and classified by gender and educational background.

Step 2: The current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in 6 following aspects: 1) teaching academic concept, 2) professional knowledge and ability, 3) teaching and communication ability, and 4) ability of reflection and inquiry, 5) innovative application ability, 6) the qualities of both engineering and teaching were analyzed by average value and standard deviation.

Step 3: The structured interview about guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi was analyzed by content analysis.

Step 4: The evaluation of the feasibility of guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi was analyzed by average value and standard deviation.

Chapter 4

Results of Analysis

The research in the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The objectives of this research were 1) to study the present situation of teaching academic ability of teachers in higher vocational colleges in Guangxi, 2) to put forward the guidelines to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi, and 3) to evaluate the feasibility of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The results of data analysis can be presented as follows:

1. Symbols and abbreviations
2. Data analysis presentation
3. Data analysis results

The details are as follows:

Symbols and abbreviations

- | | |
|-----------|------------------------------|
| n | Refers to sample group |
| \bar{X} | Refers to average value |
| S.D. | Refers to standard deviation |

Presentation of Data Analysis

Part 1: The analysis result about personal information of respondents, classified by gender, age, education background, teaching years and academic title. Presented the data in the form of frequency and percentage.

Part 2: The analysis result about the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi. Presented the data in the form of average value and standard deviation.

Part 3: The results of the analysis of the content of the interviews in the guidelines for the improvement of teaching academic ability of teachers in higher vocational colleges in Guangxi.

Part 4: The analysis resulted about the evaluation of the feasibility of guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. Presented the data in the form of average value and standard deviation.

Results of Data Analysis

The researchers divided the data into 3 parts for analysis:

Part 1: The analysis result about personal information of respondents, classified by gender, age, education background, teaching years and academic title. Presented the data in the form of frequency and percentage.

Table 4.1 Number and percentage of respondents

(n=351)

	Personal information	Frequency	Percentage
Gender	male	148	42.10
	female	203	57.90
	Total	351	100.00
Age	20-30	136	38.75
	30-40	130	37.04
	40-50	65	18.52
	Over 50	20	5.69
	Total	351	100.00
Education background	PhD	8	2.20
	master	159	45.30
	bachelor	163	46.50
	other	21	6.10
	Total	351	100.00
Teaching years	within 5	201	57.26
	5-10	54	15.38
	10-15	31	8.83
	15-20	30	8.54
	More than 20	35	9.99
	Total	351	100.00

Table 4.1 (Continued)

(n=351)

	Personal information	Frequency	Percentage
Academic title	Teaching assistant	166	47.29
	Lecturer	121	34.47
	Associate professor	54	15.38
	Professor	10	2.85
	Total	351	100.00

According to Table 4.1, most of the interviewees were 203 females, accounting for 57.90%; and 148 males, accounting for 42.10%. The education background of respondents was mainly bachelor's degree for 163 people, accounting for 46.5%, followed by master's degree, and doctoral degrees was the lowest level for 8 people, accounting for 2.2%. There were 136 people aged 20-30, accounting for 38.75%. Only 20 people were more than 50, accounting for 5.69%. There were 201 people working within 5 years, accounting for 57.26%. There are 30 people who have worked for 15-20 years, accounting for 8.54%. The number of teaching assistants with professional titles was the largest, with 166, accounting for 47.29%. The number of professors was the least, there were 10, accounting for 2.85%.

Part 2: The analysis results in the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi. Presented the data in the form of average value and standard deviation.

Table 4.2 The average value and standard deviation of the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi in 6 aspects.

(n=351)

No	Teaching academic ability of teachers in higher vocational colleges in Guangxi	\bar{X}	S.D.	Level	Rank
1	Teaching academic concept	4.36	0.87	high	1
2	Professional knowledge ability	4.13	0.85	high	2
3	Communication activity ability	3.76	1.12	high	4
4	Reflection and inquiry ability	3.98	0.92	high	3
5	Innovation and application ability	3.52	0.84	high	5
6	The qualities of both engineering and teaching	3.25	1.49	medium	6
Total		3.88	0.74	high	

According to Table 4.2, it was found that teachers in higher vocational colleges in Guangxi were at a high level of teaching academic ability in 6 aspects ($\bar{X}=3.88$). According to the results of this research, the rankings from high to low in all aspects were as follows: the highest level was teaching academic concept ($\bar{X}=4.36$), followed by professional knowledge ability ($\bar{X}=4.13$), and the lowest was the qualities of both engineering and teaching ($\bar{X}=3.25$).

Table 4.3 The average value and standard deviation of the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of teaching academic concepts

(n=351)

No.	Teaching academic concept	\bar{X}	S.D.	Level	Rank
1	I can establish the concept of people-oriented and all-round development in teaching	4.29	0.94	high	5
2	I put students at the center of my teaching	4.34	0.85	high	4
3	I look at teaching from the perspective of learning.	4.49	0.82	high	1
4	I establish a comprehensive and open academic view	4.14	0.83	high	9
5	I establish a teaching philosophy that is in line with the training objectives and attach importance to the status of practical teaching.	4.22	0.86	high	7
6	I realize that teaching in higher vocational colleges is characterized by highlighting practicality.	4.48	0.91	high	2
7	I recognize and recognize teaching academic concepts	4.39	0.84	high	3
8	I have an open mind and innovative thinking.	4.24	0.82	high	6
9	I improve my teaching effect by studying teaching	4.18	0.97	high	8
Total		4.36	0.87	high	

According to Table 4.3, it was found that the teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of teaching academic concepts was at a high level ($\bar{X}=4.36$). According to the results of this study, the aspects from the highest level to the lowest level were as follows: the highest level were "I look at teaching from the perspective of learning." ($\bar{X}=4.49$), followed by

"I establish a comprehensive and open academic view" ($\bar{X} = 4.48$), and "I establish a comprehensive and open academic view." was the lowest level ($\bar{X} = 4.14$).

Table 4.4 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of professional knowledge ability

(n=351)

NO.	Professional knowledge ability	\bar{X}	S.D.	Level	Rank
1	I have a basic grasp of the professional theoretical knowledge and application knowledge of this subject	4.12	0.87	high	3
2	I have dabbled in new knowledge, new technology, new technology, and new methods in the frontier of the professional field.	4.07	0.92	high	8
3	I basically master the main pedagogical knowledge, including basic pedagogical theories, teaching methods, student psychology and cutting-edge education and teaching ideas.	4.11	0.85	high	4
4	I have formed subject teaching knowledge that not only conforms to the learning characteristics of students but also has personal characteristics.	4.09	0.76	high	6
5	I constantly improve and develops it in teaching practice.	4.17	0.83	high	1
6	I have solid professional practical knowledge.	4.16	0.87	high	2
7	I can choose, delete, and add the course content according to the characteristics of learning situation and class situation	4.10	0.89	high	5
8	I can adjust my teaching methods according to students' learning status	4.09	0.85	high	6
Total		4.13	0.85	high	

According to Table 4.4, it was found that the average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of professional knowledge ability was at a high level ($\bar{X}=4.13$). According to the results of this research, the order from the highest level to the lowest level was as follows: the highest level was "I constantly improves and develops it in teaching practice." ($\bar{X} = 4.17$), followed by "I have solid professional practical knowledge." and "I can choose, delete and add the course content according to the characteristics of learning situation and class situation." ($\bar{X} =4.16$), and "I have dabbled in new knowledge, new technology, new technology, and new methods in the frontier of the professional field." was the lowest level ($\bar{X} =4.07$).

Table 4.5 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of communication activity ability

(n=351)

No.	Communication activity ability	\bar{X}	S.D.	Level	Rank
1	I participate in public classes among teachers and peers	4.19	0.90	high	1
2	I am willing to disclose my teaching process and share my teaching results	4.17	0.94	high	2
3	I discuss teaching and learning by listening to each other and evaluating classes.	3.78	0.89	high	6
4	I participate in public classes among teachers and peers.	4.10	0.98	high	3
5	I discuss teaching and learning by listening to each other and evaluating classes.	3.76	0.97	high	7
6	I actively listen to students' opinions about teaching	4.02	0.99	high	4

Table 4.5 (Continued)

(n=351)

No.	Communication activity ability	\bar{X}	S.D.	Level	Rank
7	I participate in regional, national, or even international teaching or exchange of results	3.41	1.29	middle	9
8	I participate in an organized teaching community with a fixed frequency of exchanges and in-depth content.	3.52	1.21	high	8
9	I participate in formal forms of communication, such as seminar reports, conference presentations, writing results reports and publishing journal papers, etc.	3.36	1.27	middle	10
10	I participate in informal forms of communication such as lectures and chats between teachers, as well as communication with the help of modern and advanced information technology, such as Weibo, WeChat, QQ groups, etc.	4.00	1.05	high	5
Total		3.76	1.12	high	

According to Table 4.5, it was found that the teaching academic ability of teachers in higher vocational colleges in Guangxi was at a high level in terms of communication activity ability (\bar{X} = 3.76). According to the results of this study, the aspects from the highest level to the lowest level were as follows: the highest level was "I participate in public classes among teachers and peers." (\bar{X} = 4.19), Followed by "I am willing to disclose my teaching process and share my teaching results" (\bar{X} = 4.17), and "I participate in formal communication forms, such as seminar reports, conference speeches, writing achievement reports and publishing journal papers, etc." was the lowest level (\bar{X} = 3.36).

Table 4.6 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of reflection and inquiry ability.

(n=351)

No.	Reflection and inquiry ability	\bar{X}	S.D.	Level	Rank
1	I have reflections on curriculum design (lesson preparation process)	4.07	0.87	high	3
2	I reflections on teaching content and teaching methods (teaching process)	4.11	0.89	high	2
3	I have discovered in teaching practice problems and solve them	3.86	0.92	high	7
4	I have improved the content of reflection from simple self-reflection to generating effective and valuable research results, including various forms of teaching results and teaching academic results.	3.90	0.97	high	6
5	Based on teaching reflection, write relevant teaching articles	3.78	0.97	high	8
6	Be good at using the successful experience of others in teaching activities	3.97	0.91	high	5
7	I formed a good habit of reflecting on my teaching every day	4.12	0.98	high	1
8.	I often reflect and explore with my peers on a certain problem in teaching.	4.04	0.92	high	4
Total		3.98	0.92	high	

According to Table 4.6, it was found that the teaching academic ability of teachers in higher vocational colleges in Guangxi was at a relatively high level in terms of reflection and inquiry ability ($\bar{X}=3.98$). According to the results of this study, the aspects from the highest level to the lowest level were as follows: the highest level was "I have reflections on curriculum design (lesson preparation process)." ($\bar{X}=4.12$), and "On the basis of teaching reflection, write relevant teaching articles." was the lowest level ($\bar{X}=3.78$).

Table 4.7 The average value and standard deviation of the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of innovation and application ability

(n=351)

No.	Innovation and application ability	\bar{X}	S.D.	Level	Rank
1	I constantly absorb and understand new concepts, update, and develop old educational concepts, combine the needs of the times	3.00	0.83	middle	8
2	I innovate my own teaching methods and evaluation methods.	3.45	0.98	middle	6
3	I can innovate teaching methods according to the characteristics of students and courses	4.05	0.86	high	1
4	I invented many patents according to the needs of teaching	3.32	0.89	middle	7
5	I have a strong innovative thinking	3.51	0.87	high	4
6	I actively participate in various innovation competitions	3.67	0.93	high	2
7	I consider innovative teaching tools and teaching methods in my teaching practice	3.48	0.86	middle	5
8	I can keep up with The Times, master new technologies, and apply them to my teaching.	3.55	0.94	high	3
Total		3.52	0.84	high	

According to Table 4.7, it was found that the teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of innovative application ability was at a relatively high level (\bar{X} =3.52). According to the results of this study, the aspects from the highest level to the lowest level were as follows: the highest level is "I can innovate teaching methods according to the characteristics of students and courses." (\bar{X} =4.05), And "I constantly absorb and understand new concepts, update and develop old educational concepts, combine the needs of the time" was the lowest level (\bar{X} =3.00).

Table 4.8 The average value and standard deviation of the teaching academic ability of teachers in higher vocational colleges in Guangxi in terms of the qualities of both engineering and teaching.

(n=351)

No.	The qualities of both engineering and teaching	\bar{X}	S.D.	Level	Rank
1	I actively participate in social practice in enterprises	3.30	1.63	medium	6
2	I have a teacher qualification certificate and a vocational skills qualification certificate at the same time.	3.09	1.24	medium	10
3	I have high theoretical knowledge and teaching level and have strong professional practical ability and rich practical experience.	3.21	1.35	medium	7
4	I think higher vocational teachers should have the quality of dual teachers	3.32	1.16	medium	5
5	I think the higher the proportion of teachers with dual quality, the higher the level of school running.	3.43	1.07	medium	2
6	I think the quality of dual teachers should be linked to the titles and awards of schools.	3.35	1.13	medium	3
7	I often participate in technician, senior technician and other aspects of training and certification.	3.13	1.21	medium	9
8	I clearly define my development orientation and have the life goal of becoming a "craftsman's teacher".	3.44	0.98	medium	1
9	I apply the results of technological research and development and apply them to teaching.	3.17	0.88	medium	8
10	I took part in a vocational skills contest and won a prize	3.34	0.97	medium	4
Total		3.25	1.49	medium	

According to Table 4.8, it was found that the teaching academic ability of teachers in higher vocational colleges in Guangxi was at a medium level ($\bar{X}=3.25$) in terms of the quality and ability of double teachers. According to the results of this study, the aspects from the highest level to the lowest level were as follows: the highest level was "I clearly define my development orientation and have the life goal of becoming a "craftsman's teacher" ($\bar{X}=3.44$), and "I have a teacher qualification certificate and a vocational skills qualification certificate at the same time" was the lowest level ($\bar{X}=3.09$).

The overall level of teaching academic ability of teachers in higher vocational colleges In Guangxi

In summary, according to Rensis Likert (1932) data interpretation of the mean, the data was interpreted as follows: 4.50-5.00 indicates the highest level, 3.50-4.49 indicates the higher level, 2.50-3.49 indicates the middle level, 1.50-2.49 indicates the low level, 1.00-1.49 indicates the lowest level. The questionnaire survey of teachers in higher vocational colleges found that the average value of teachers' teaching academic ability scale was at a high level ($\bar{X}=3.88$). In the dimension of teachers' teaching academic ability, the average value of teaching academic concept was at a relatively high level ($\bar{X}=4.36$). The average professional knowledge ability was at a relatively high level ($\bar{X}=4.13$), the communication activity ability was at a high level ($\bar{X}=3.76$), the reflection and inquiry ability was at a high level ($\bar{X}=3.98$), and the innovative application ability was at a high level ($\bar{X}=3.52$), the qualities of both engineering and teaching were at the middle level ($\bar{X}=3.25$). The average order of the six first-order dimensions was: teaching academic concept ($\bar{X}=4.36$)> professional knowledge ability ($\bar{X}=4.13$)> reflection and inquiry ability ($\bar{X}=3.98$)> communication activity ability ($\bar{X}=3.76$)> innovation Application ability ($\bar{X}=3.52$)> the qualities of both engineering and teaching ($\bar{X}=3.25$). The level of teaching academic concepts was the highest, and the level of professional knowledge ability, reflection and inquiry ability, communication activity ability, innovative application ability, and the qualities of both engineering and teaching were the lowest on average. Therefore, this showed to a certain extent that the professional knowledge ability, reflection and inquiry ability, communication activity ability, innovative

application ability, and the qualities of both engineering and teaching of teachers in higher vocational colleges need to be further improved.

Through the analysis of the average value and standard deviation data of the teacher evaluation questionnaire in higher vocational colleges in Guangxi, it was concluded that the current situation of teaching academic ability of teachers in higher vocational colleges in Guangxi could be summarized into 3 consistent conclusions:

First, the academic level of teaching in higher vocational colleges in Guangxi was relatively high, but the execution level of each dimension is unbalanced.

Secondly, teachers in higher vocational colleges in Guangxi had the highest level of teaching academic concepts.

Third, the qualities of both engineering and teaching in higher vocational colleges in Guangxi was the lowest.

Analysis of Interview Results

The analysis results of the content of the interview on the teaching academic ability guidance of teachers in higher vocational colleges in Guangxi.

Table 4.9 Personal information of respondents

No	School	Title background	Interview date and time
interviewee 1	Guangxi Vocational and Technical College	Academic title: professor Expertise: director of the academic affairs office Work experience: 23 years	May 10,2023 at 9:00am, GMT+8
interviewee 2	Guangxi Vocational and Technical College	Academic title: associate professor Expertise: deputy director of the personnel office Work experience: 19 years	May 10,2023 at 9:42am, GMT+8
interviewee 3	Guangxi Vocational and Technical College	Academic title: associate professor Expertise: professional teacher Work experience: 26 years	May 10,2023 at 10:35am, GMT+8
interviewee 4	Guangxi Performing Arts Vocational and Technical College	Academic title: associate professor Expertise: professional teacher Work experience: 16 years	May 11, 2023 at 15:02pm, GMT+8
interviewee 5	Guangxi Performing Arts Vocational and Technical College	Academic title: associate professor Expertise: director of the academic affairs office Work experience: 24 years	May 11, 2023 at 15:50pm, GMT+8
interviewee 6	Guangxi Performing Arts Vocational and Technical College	Academic title: associate professor Expertise: deputy director of the personnel office Work experience: 20 years	May 11, 2023 at 16:32pm, GMT+8

Table 4.9 (Continued)

No	School	Title background	Interview date and time
interviewee 7	Guangxi Industrial Vocational and Technical College	Academic title: professor Expertise: professional teacher Work experience: 28 years	May 15, 2023 at 10:02am, GMT+8
interviewee 8	Guangxi Industrial Vocational and Technical College	Academic title: associate professor Expertise: deputy director of the personnel office Work experience: 13 years	May 15, 2023 at 10:30am, GMT+8
interviewee 9	Guangxi Industrial Vocational and Technical College	Academic title: associate professor Expertise: director of the academic affairs office Work experience: 18 years	May 15, 2023 at 9:30am, GMT+8
interviewee 10	Guangxi Vocational Technical College of Logistics Engineering	Academic title: associate professor Expertise: director of the academic affairs office Work experience: 25years	May 16, 2023 at 10:05am, GMT+8
interviewee 11	Guangxi Vocational Technical College of Logistics Engineering	Academic title: associate professor Expertise: deputy director of the personnel office Work experience: 22 years	May 16, 2023 at 10:40am, GMT+8
Interviewee 12	Guangxi Vocational Technical College of Logistics Engineering	Academic title: associate professor Expertise: professional teacher Work experience: 12 years	May 16,2023 at 11:50am, GMT+8

Interview 1

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think teachers in higher vocational colleges had basically established the concept of teaching academics. I agree that teaching and scientific research are complementary. Teaching is helpful to scientific research. What we obtain from scientific research is relatively cutting-edge things, which can be reflected in our teaching. If our scientific research or that of your peers is infiltrated into this, students will feel that the lessons they have learned can be used, which has such benefits.

I suggest that teachers themselves should strengthen their teaching academic awareness, pay attention to the problems that arise in teaching practice, and regard teaching academics as an important way to improve their teaching ability and realize the professional development of teachers themselves. At the same time, I also suggest that school administration is necessary to increase teachers' academic guidance in teaching and create an academic teaching atmosphere.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think that teachers basically understand the knowledge of educational psychology, can use theoretical knowledge of pedagogy to solve problems encountered in actual teaching, pay attention to educational research methods to a certain extent, and are less likely to actively pay attention to frontier theoretical knowledge of pedagogy. Some teachers will not take the initiative to invite colleagues to observe their own teaching and put forward suggestions for improvement. There are still certain limitations, because many teachers do not have professional background in teacher training, and teachers are not willing to take the initiative to pay attention to the cutting-edge pedagogical theoretical knowledge, let alone invite colleagues to sit in on their teaching and put forward suggestions for improvement. They have low initiative and a weak awareness of self-research and teaching. Because teachers' understanding of educational theoretical knowledge

mainly comes from their school studies before graduation, or teaching induction training, teachers seldom take the initiative to understand pedagogical knowledge after entering the job, and they will not use pedagogical knowledge to solve teaching problems, there is a blank area between the connection between teaching knowledge and teaching practice, and the role of teaching knowledge in helping to improve teaching practice is relatively limited.

I suggest that teachers should not only constantly supplement their existing knowledge of the subject, but also pay attention to the frontier trends of the subject, grasp the hot topics of subject research, and continuously improve their professional quality; the school should provide guidance in this regard, and select excellent teachers to participate in various trainings Classes and training courses to improve teachers' teaching practice ability and teaching level or support teachers to study for master's and doctoral degrees on the job, improve the structure of academic qualifications, and increase the level of academic qualifications.

3. What is the current situation of the Communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the Communication activity ability of teachers in higher vocational colleges?

I think that most of the teachers had cooperated with peers to carry out teaching and research projects. Teachers are willing to carry out peer-to-peer cooperative teaching and research because teachers can communicate at any time in the office or laboratory, and on the other hand, because the professional scientific research tasks occupy most of the teachers' time. Teaching research itself also requires a lot of time and energy. Cooperating with peers to carry out teaching research can save teachers some time and improve work efficiency. Teachers are also actively declaring various teaching and research projects, but the final teaching results and rewards are less. Moreover, there are great differences among teachers. A large part of teachers have not published teaching research papers or published teaching research works, and the proportion of teachers who can receive teaching research awards is even smaller.

It is suggested that schools should design more school-level education reform projects and teaching achievement awards to promote teachers' ability to

communicate and activities, and let teachers develop from school-level projects step by step; schools should provide more platforms for teachers to communicate and increase the height and breadth of the platform.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think teachers can often reflect on teaching practice and teaching effects, however, the frequent communication between teachers and their peers is mostly informal, while the communication between teachers participating in national level or above is rare. The main reason is that it is very convenient for teachers to communicate in teaching and research groups, but to participate in exchanges at the school level or above, teachers are reluctant to spend too much time preparing, and there is no awareness of this aspect, let alone form the results of communication into results that can be displayed, such as papers and so on.

It is suggested that teachers should further form their own reflection into teaching results. It is suggested that schools should create a relaxed teaching and academic atmosphere and give teachers enough time; It is suggested that the personnel department of the school should establish cooperative organizations such as teacher cooperative teaching research organizations and teacher workshops, carry out discussions on relevant teaching theories from time to time, and set up a variety of teaching reform projects to promote teachers' ability to exchange activities.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

In my opinion, some vocational teachers lack the awareness of innovation, because they have basically not received the training of innovative ideas, and rarely integrate the concept into the actual professional teaching.

It is suggested that teachers should actively participate in all kinds of innovative training, actively participate in various teaching competitions, and consciously form innovative thinking; It is suggested that teachers attach importance to knowledge accumulation and technology updating, combine teaching positions,

and rely on practical teaching to find innovation points. It is suggested that school should require teachers to participate in corresponding training, competitions, and other activities.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

The subjective consciousness of teachers and the security of schools have certain problems. First, teachers are not willing to spend time and energy to practice in enterprises. Second, in recent years, teachers introduced by higher vocational colleges and universities are basically graduate students who lack enterprise experience. Third, there are problems in the security mechanism of schools, which cannot ensure that teachers have enough time to practice in enterprises.

It is recommended to reform the teacher evaluation system, guide teachers to increase their practice in enterprises, and improve the qualities of both engineering and teaching; it is suggested to reform the incentive mechanism to encourage teachers to use winter and summer vacation time to practice in enterprises and encourage teachers to actively expand the acquisition of second professional titles or industry qualification certificates.

Interview 2

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I personally think that the correct teaching concepts of higher vocational colleges have been established, such as student-centered, and the recognition of the important role of practical teaching in teaching. However, the academic concept has not been well established. The specific manifestation is that teachers do not realize that teaching itself has the value of academic research.

I think the following measures can be used to improve teachers' teaching academic concepts. First, schools should expand publicity and guidance, and guide teachers in higher vocational colleges to reshape the teaching academic views of higher vocational college teachers. Second, schools should establish a teaching

academic incentive system to encourage teachers at higher vocational colleges research and develop teaching academics, commend and reward teachers of higher vocational colleges who have made achievements in teaching academics, and play a baton role. Third, teachers themselves must also consciously change traditional concepts.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think this problem should also be analyzed from two sides. Most of the teachers in our higher vocational colleges come from non-teaching majors. They have a good grasp of the knowledge of the subject, but they ignore the professional frontier follow-up; for education, the relevant principles of teaching are not enough to learn, let alone improve the level of educational theory.

I think the following measures can be taken to improve the professional knowledge and ability of teachers in higher vocational colleges. First, the school should build a complete training system , including pre-employment and in-service training, focusing on the training and practical application of educational theories; the second is to establish a professional career for teachers Archives, "one teacher, one file", standardize the management of teacher teaching training, supervise and urge teachers to practice in enterprises, and follow the forefront of the industry; the third is to select excellent teachers to participate in various seminars and training courses to improve teachers' teaching practice ability and teaching level.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think that the current exchange activities of teachers in higher vocational colleges are good at the teaching and research group level, but when it rises to the school level, our teachers' exchanges with other units or international exchanges are still relatively lacking. I think teachers still have a certain concept of sharing, which is specifically manifested in the fact that teachers build courses on the Internet and interact with peers and students on the platform. However, due to the limited

platform that the school can provide, the depth and breadth of communication between teachers is not enough.

I think the following measures can be taken to improve teachers' ability to communicate and engage in activities. First, the school establishes cooperation organizations such as teacher cooperative teaching research organizations and teacher workshops, and conducts academic seminar salons at the school level from time to time. Second, the school sets up teaching reform projects, develops Teaching ability competitions, etc., to strengthen the exchange of teachers between different majors. Third, teachers should actively participate in their respective exchange activities.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think teachers' ability to reflect and explore is average. Many teachers are only satisfied with completing the teaching workload. However, the quality of the class and the quality of the students' learning are relatively few for teachers to think about such issues. This is specifically reflected in the final course exams handed in by the teachers. Analysis reports are all written in the same way, without in-depth thinking.

I think the following measures can be used to improve teachers' ability to reflect and explore. First, the school should organize various teaching competitions to promote teaching and reflection through competitions. Second, the school should guide teachers to strengthen reflection and exploration through publicity, training, performance guidance, etc., forming a series of teaching and research results.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think teachers' ability to innovate and apply is still relatively weak, which is mainly reflected in the fact that teachers carry out teaching step by step, do not apply new educational concepts to actual teaching, and the degree of innovation in teaching methods and evaluation methods is not enough.

I think the following measures can be used: First, school should Innovation and form a series of innovative application results through publicity, training, performance guidance. Second, school should establish a diversified teaching quality evaluation system suitable for teaching academics. Third, school should require teachers to attach great importance to knowledge accumulation and technology update, combined with teaching positions, relying on practical training to find innovation points.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think the qualities of both engineering and teaching. is still relatively weak, because most of our teachers are graduates from colleges and universities, and have no work experience in enterprises; teachers usually have heavy teaching tasks and do not have much time to practice in enterprises; the national level is also In the past 10 years, the policy of requiring the qualities of both engineering and teaching has been introduced, but the concept of teachers has not changed very well.

I think it can be strengthened through the following measures: First, school should build a complete training system, especially the teacher training system and mechanism. Second, builds and improves the hierarchical classification of this ability. The system guides teachers to strengthen cooperation with enterprises, encourages teachers to go to enterprises to practice and exercise frequently, and becomes a teacher who have the qualities of both engineering and teaching. The third is to introduce a corresponding dual-qualified teacher incentive mechanism.

Interview 3

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think that in terms of teaching academic concepts, teachers are basically student-centered and attach importance to the status of practical teaching. Basically, establish a comprehensive academic outlook. If the full score is 5 points, I think teaching academic concepts can be scored 4 points, and 1 point is not enough for

innovative thinking, mainly based on textbooks. The teachers have not had enough social experience from school to school and are limited to the rules and regulations of the school.

It is recommended to increase teachers' innovative thinking and corporate work experience to strengthen the academic awareness of teaching.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think the teachers do not have enough knowledge of the four new technologies (new technologies, new processes, new norms, and new standards). They don't want to spend too much time studying the four new things. The teachers have all passed the training and obtained the teacher qualification certificate, and they still know a lot about pedagogy. But many teachers graduate from school and then go to school to teach, and there is not much time to go to the enterprise for practice. Because of insufficient practice, the four new ideas have not been mastered. Usually, the teachers are too tired to attend classes and don't have time to practice too much in the enterprise.

It is recommended that school should reduce the burden on teachers, teacher should spend more time in practice in enterprises to improve their practical ability.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think there are quite a lot of public classes between peers. Participation in teaching seminars organized by the school is lacking. All the communication is limited to the internal communication of the teaching and research room, and they are unwilling to take time to participate in other exchanges, because they feel that it is not meaningful to spend time participating, and there is no quantifiable indicator for the quality of teachers' class. After participating in the training, the teachers are unwilling to change, and they can do whatever they want.

It is suggested that school should reduce the burden on teachers and take more time to participate in exchange activities; establish a diversified teaching quality evaluation system and a comprehensive teaching quality monitoring system suitable for teaching academics.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

Our school conducts a mid-term teaching inspection in the middle of each semester, which is to reflect on the curriculum and let students put forward their opinions. Normally, teachers do not have this awareness to reflect on the curriculum, and do not form words, but they will have this behavior to reflect. They think about the quality of this course, but they do not turn the thinking content into results.

It is recommended that school should expand publicity and guidance at the school level, guide teachers in higher vocational colleges to reshape the academic outlook of teachers in higher vocational colleges, guide teachers to form reflection and inquiry into scientific research and put it into teaching.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think teachers in higher vocational colleges can innovate and apply. For example, some teachers use the flipped curriculum teaching method, and they will ask questions and interact with students. However, when schools and enterprises cooperate to carry out new teaching, enterprises will not install cameras for distance teaching, which will reveal business secrets and let competitors know.

It is recommended that teachers combine their teaching positions and rely on practical training to find innovation points.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think vocational skill qualification certificates are related to industries. Some industries have more certificates, while some industries do not have vocational

qualification certificates. I am in the animal nutrition industry and have no qualifications in this area. But I have strong professional practical ability. I have a doctorate degree and have rich business experience.

It is recommended that school should reduce the burden on teachers, spend more time in practice in enterprises, help enterprises solve some production problems, and these projects will be used as materials for course resources.

Interview 4

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think that the teaching academic concept and teaching academic ability of teachers in higher vocational colleges in Guangxi are average, because most of the teachers in higher vocational colleges are not from teacher-training majors and lack teaching academic concepts.

It is recommended that school should provide professional training in education and teaching for teachers at higher vocational colleges who do not have a teacher-training major.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

Higher vocational colleges in Guangxi all have good professional background. They are familiar with professional knowledge. They have good teaching and academic ability of professional knowledge.

It is recommended that school should actively introduce highly educated and qualified personnel from higher vocational colleges to serve as teachers in higher vocational colleges; actively guide teachers in higher vocational colleges to participate in further studies.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

In my opinion, teachers in higher vocational colleges and universities in Guangxi currently have average communication skills and teaching academic abilities, mainly because they are non-teacher majors and have not been trained in educational and teaching psychology.

It is recommended that school should provide professional training in education and teaching for teachers at higher vocational colleges who do not have a teacher-training major.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

In my opinion, teachers in higher vocational colleges in Guangxi have low reflective and inquiry ability and teaching academic ability, mainly due to the lack of education, teaching and research training and systematic learning from non-teacher majors.

It is recommended that school should provide professional training in education and teaching for teachers of higher vocational colleges who do not have a teacher-training major.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think that the innovative application ability of teachers in higher vocational colleges in Guangxi is relatively lacking, mainly due to the lack of research accumulation in relevant scientific research projects.

It is recommended that school should actively guide teachers of vocational colleges to strive for various scientific research projects to carry out scientific research.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think that the teaching academic ability of teachers in higher vocational colleges in Guangxi is average, mainly due to the lack of close contact between

teachers and social industry enterprises.

It is recommended that school should strengthen school-enterprise cooperation, provide a platform for teachers at higher vocational colleges to serve social industry enterprises, and allow teachers of higher vocational colleges to provide technical services for social industry enterprises to this ability.

Interview 5

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

The academic concept of teaching needs to be strengthened. Some teachers can actively carry out academic research, and the research effect is not significant compared with public schools.

I suggest these ways to improve: (1) school should strengthen top-level design and improve system construction. Introduce a guaranteed system to support the development of teachers to promote the improvement of teaching academic concepts. (2) school should establish a teaching and scientific research team, realize the mentoring mechanism, and create a good atmosphere for teaching and scientific research.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think that there are different gaps in the professional knowledge and academic ability of teachers in different majors. For example, the teaching academic ability of teachers in the School of Art Engineering and the School of Performing Arts is more prominent.

I suggest these ways to improve: School should enrich teachers' teaching training forms, stimulate teachers' enthusiasm and initiative in carrying out teaching practice and conducting academic research on teaching. Teachers should participate in various competitions, strengthen cooperation, and exchange mechanisms with other higher vocational colleges, and strengthen learning.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think that some teachers neglect the communication activities of teaching and research, and engage in teaching and academic activities in isolation, which leads to the inconspicuous achievements of teaching and academic research and the slow improvement of ability.

I suggest these ways to improve: First, school should actively carry out teaching and research activities, encourage teachers to share their own teaching practice confusion, obstacles and thinking, communicate and interact with members of the teaching and research team, accept comments from team members, and absorb suggestions and opinions from experienced and excellent teachers, organize and summarize the evaluation results and the wisdom of the group, form a teaching theory, and continuously sublimate it, and finally form its own teaching academic achievements. Second, school should provide a platform for communication, invite teachers from different subjects and different professional titles to discuss, communicate and interact with specific teaching issues, understand and think, exchange ideas with each other, and enlighten wisdom, so as to enhance and strengthen the depth, breadth and recognition of teaching research by teachers of various subjects.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think that teachers have a weak sense of reflection and inquiry ability, few channels, and methods.

I suggest these ways to improve: First, school should establish a teaching evaluation system to continuously enhance teachers' awareness of teaching reflection. Second, school should enrich the teaching evaluation system, such as establishing forms such as student evaluation teaching and teacher listening to lectures, expanding teaching evaluation channels, and promoting teachers to improve their ability to reflect and explore.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think that due to professional reasons, teachers of art majors have strong innovation and application ability, but teachers from non-art background have relatively weak innovation and application ability.

I suggest these ways to improve school should establish an objective and fair academic evaluation and professional title promotion mechanism, incorporate innovation ability into the scope of assessment, and stimulate teachers' enthusiasm for academic innovation.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think that the proportion of teachers with dual-qualification capabilities in schools is relatively weak compared to public schools. The quality and ability of dual-qualification teachers are uneven, and certificates are emphasized over abilities. Most of the dual teachers are satisfied with obtaining certificates and ignore practical ability training.

I suggest these ways to improve school should improve the double-teacher evaluation system, strengthen the cultivation of practical ability and academic quality.

Interview 6

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

In my opinion, teachers' teaching academic concept and teaching academic ability are quite different. Teachers have the necessary theoretical knowledge for teaching, but the quality and ability of practical level need to be strengthened and improved.

I suggest that teachers with no practical experience should be guided by an old teacher with rich practical experience as an apprentice, to improve the practical

ability and level of teachers.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think that teachers have basically mastered the professional knowledge of the subject, but there is a lack of educational knowledge, because many teachers have not graduated from normal colleges and are relatively weak.

I suggest that school should improve teachers' academic qualifications, organizing regular teacher training, updating professional knowledge, and improving the accumulation of educational knowledge.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the Communication activity ability of teachers in higher vocational colleges?

I think there is more communication between teachers and students, and teachers can improve teaching methods, individual counseling, discussion, and other solutions. There are public classes between teachers and peers, mutual lectures, and evaluations. However, there are fewer teaching-related issues such as communicating and discussing teaching methods.

I suggest that teachers should communicate with students after class. Teachers listen to each other's lectures, and usually exchange and communicate with each other about their teaching gains, experiences, and perceptions.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think teachers can reflect on the curriculum design, teaching content, teaching methods and teaching effects of the courses they teach, summarize their strengths and weaknesses, and improve and improve in future teaching. But when it comes to theoretical research on the understanding and experience of teaching, the ability to form teaching results is insufficient. Some teachers may not be good at summarizing, and some teachers do not want to sum up.

It is recommended that school should form a teaching team which is conducive to the strength of the team to complete the research on teaching results.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think that innovation in concept and innovation in practice have done a good job. Teachers' teaching concepts, teaching methods and evaluation methods can keep pace with the times, and can apply new technologies to teaching work, but there is still room for improvement.

I suggest that school should send teachers to study and communicate with colleges and universities in Guangdong and other provinces where higher vocational education is developed.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think that teachers basically have solid basic theoretical knowledge, strong professional practical abilities, and high teaching level, but they still lack practical work experience in enterprises.

My suggestion: first, school should support teachers to train. Second, teachers will be asked to go to the enterprise for 3 months for training every year. The school should issue relevant policies, such as reducing or exempting the workload and providing corresponding subsidies. Teachers have plenty of time to practice in enterprises.

Interview 7

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think that under the skill competition teaching ability competition led by the Ministry of Education, the teaching academic concept and teaching academic level of teachers in higher vocational colleges, especially the concept level of information-based teaching and project-based teaching, should be relatively unified, and young teachers are at a higher level.

I think it can be promoted through the following methods. First, teacher should promote teaching through competitions. Second, teachers should combine teaching and scientific research.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I personally think that the professional knowledge of college teachers lags behind the professional development of social industries and cannot meet the needs of the rapid development of the social economy.

I suggest that school should encourage teachers to work part-time to practice in enterprises, so that teachers can keep up with the development of the industry and promote teachers' practical teaching ability.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think that communication between teachers and students is not deep enough.

My suggestion: Schools should build communication mechanism where students can communicate with them weekly through heart-to-heart talks, questionnaires, discussions, student assessments and other means. Teachers and staff form curriculum teaching teams. Team members can conduct in-depth communication through teaching and research activities, such as open classes, mutual lectures, class evaluations, and raise their own doubts or indirect opinions on teaching issues to promote common development.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think teachers' reflective inquiry ability is poor, because teachers have no time to reflect, and a lot of time is taken up by paperwork. This can be seen from the number of papers in our school, and it can also be seen that the reflection papers published by teachers are showing a downward trend.

I suggest that school should reduce the teacher's burden and let them concentrate on teaching and research.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think the innovative application ability of teachers in higher vocational colleges is average.

Teachers are advised to go into business and industry, and not to lose touch with industry.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think the qualities of both engineering and teaching of teachers in higher vocational colleges are medium, and the ability needs to be improved, and the proportion of some professional teachers has not reached 50%.

The ability of the qualities of both engineering and teaching can be improved in the following ways: First, the school should conduct the training of teachers' teaching improvement ability. The teaching ability marking test and teaching skills competition cannot improve the teaching ability of teachers. Second, teachers are required to participate in the enterprise time, no less than 1 month a year, through the enterprise time continuously enrich the practical experience of the enterprise. Third, teachers are encouraged to participate in professional qualification examinations and obtain corresponding professional qualifications. Or participate in the training and certification of professional technicians and senior technicians to improve the level of professional skills.

Interview 8

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think that the current school teaching academic concept and teaching academic ability need to be strengthened; some teachers can actively carry out

academic research, and the research effect is not significant compared with public schools.

The ways to improve are as follows: First, school should strengthen the top-level design and improve the system construction. Introduce a guaranteed system to support the development of teachers to promote the improvement of teaching academic concepts. Second, school should establish a teaching and scientific research team, realize the mentoring mechanism, and create a good atmosphere for teaching and scientific research.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think that there are different gaps in teachers' professional knowledge and academic ability in different subjects, and the teaching academic ability of teachers in the School of Art Engineering and the School of Performing Arts is more prominent.

The ways to improve are as follows: First, school should enrich the form of teacher teaching and training, stimulate the enthusiasm and initiative of teachers to carry out teaching practice and conduct academic research on teaching. Second, school should encourage teachers to participate in various competitions, strengthen cooperation and exchange mechanisms with other higher vocational colleges.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think that at present, some teachers ignore the exchange activities of teaching and research, and engage in teaching and academic activities in isolation, which leads to the lack of obvious teaching and academic research results and slow improvement of ability.

The ways to improve are as follows: First, school should encourage teachers to share their own teaching practice confusion, obstacles and thinking, communicate and interact with members of the teaching and research group, accept the comments of group members, absorb the suggestions and opinions of experienced and excellent

teachers. Second, school should provide a communication platform, Invite teachers from different disciplines and different professional titles to discuss, communicate and interact with specific teaching issues, understand and think, exchange ideas with each other, and enlighten wisdom, so as to enhance and strengthen the depth, breadth and recognition of teaching research by teachers of different subjects.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think that the current teachers' awareness of reflection and inquiry ability is not strong, there are not many channels and methods, and individual differences are large.

The ways to improve are as follows: First, school should establish a teaching evaluation system to continuously enhance teachers' awareness of reflection on teaching. The second is to enrich the teaching evaluation system, such as establishing forms such as student evaluation teaching and teacher listening to lectures, expanding teaching evaluation channels, and promoting teachers to improve their ability to reflect and explore.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think that due to professional reasons, teachers of art majors have a strong ability to innovate and apply.

The ways to improve are as follows: establish an objective and fair academic evaluation and professional title promotion mechanism, incorporate innovation ability into the scope of assessment, and stimulate teachers' enthusiasm for academic innovation.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think that the current proportion of teachers with the qualities of both engineering and teaching is low. Most of teachers are satisfied with obtaining certificates and ignore practical ability training.

The ways to improve are as follows: school should improve the qualities of both engineering and teaching valuation system, strengthen the cultivation of practical ability and academic quality.

Interview 9

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think the teaching academic ability is generally insufficient. The reason is that most teachers in higher vocational colleges have not received education in pedagogy, educational psychology, etc.

I suggest the following measures: first, school should strengthen the study of educational courses such as pedagogy and educational psychology, strengthen the training of relevant theories, promote the improvement of teachers' teaching academic level through education reform research projects, and establish teacher workshops to hold discussions on relevant teaching theories from time to time.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think that the teaching academic ability of professional knowledge generally does not meet the needs of technical upgrading in the professional field.

I suggest the following measures: school should strengthen training, strengthen teachers' practical ability training, strengthen the improvement of teachers' scientific research ability, and strengthen teachers' teaching development ability training for transforming scientific research projects into teaching projects.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think it is generally not good. The specific manifestation is that teachers are not good at summarizing their own teaching characteristics and strengths, are not good at using research thinking to carry out teaching work and are not good at selling themselves.

The following measures are suggested: school should strengthen training, establish teacher workshops to hold discussions on relevant teaching theories from time to time, and promote teachers' ability to communicate through education reform projects.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think this question is like the third question. Teachers in higher vocational colleges generally do not have the ability to reflect and explore. This is also reflected in the fact that teachers are not good at summarizing their own teaching characteristics and strengths and are not good at using research thinking to reflect on teaching work. Many schools have not formed a good teaching diagnosis and improvement mechanism.

The following measures are suggested: school should form a course team, and the members of the team work together to formulate course standards and prepare lesson plans. Team members carry out process diagnosis and improvement. Teaching seminars and teaching supervision can be conducted on a weekly basis. Team members evaluate the courses taught by each other and put forward opinions and suggestions. The teachers themselves summarize and reflect on the teaching and make continuous diagnosis and improvement. At the end of the course, after the assessment is completed, the diagnosis and improvement of the course will be summarized.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think this problem is like the second problem. Teachers' innovative application ability does not meet the needs of technological upgrading in professional fields.

I suggest the following measures: school should strengthen training, strengthen the training of teaching innovation ability, strengthen teachers' emphasis on knowledge accumulation and technology update, combine teaching positions, rely on practical training to find innovation points, and form innovation results.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think that the qualities of both engineering and teaching of teachers in higher vocational colleges is poor, which is related to the source of teachers in higher vocational colleges.

I suggest the following measures: school should strengthen school-enterprise cooperation, require teachers to practice in enterprises to form a normal state, and improve teachers' practical ability. Schools should use a teacher evaluation system and incentive mechanism to mobilize teachers' enthusiasm for enterprise practice.

Interview 10

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think that the current teachers' ability to teach academic concepts is average. Most teachers just teach and teach and have not formed a good academic concept.

The promotion measures are as follows: First, school should strengthen the training of teaching and academic concepts, which is conducive to the gradual formation. Second, school should regularly carry out exchange activities. Third, Experienced old teachers act as mentors to guide young teachers to carry out teaching and academic work.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think that with the development of the times, the current teachers' professional knowledge and teaching academic ability is insufficient, especially for young teachers, who go directly from school to school to carry out teaching work. Insufficient training and precipitation, most of the teachers' professional knowledge is superficial, without the spirit of research.

The promotion measures are as follows: 1) School should strengthen learning, young teachers must have the spirit of hard study, and to exercise themselves in the laboratory. 2) Teachers should strengthen the practice of enterprises, to realize the combination of theory and practice and promote each other. 3) Teachers should keep up with the current situation.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think that due to the advent of the information age, there are various ways to obtain information, but at the same time, it also weakens the teaching academic level of teachers' communication and activity capabilities. It is in a downward trend compared with the past.

The promotion measures are as follows: First, school should strengthen the exchange activities with others, and improve their abilities from the activities. Second, schools should strengthen the training and learning of teachers, so that teachers can improve their ability in learning.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think that in addition to completing basic teaching tasks, teachers currently have many tasks such as project declaration, competitions, internships, and employment. The time left for teachers to reflect and explore is extremely limited. It can be considered that the current teachers' ability to reflect and explore is insufficient. It needs to be strengthened.

The promotion measures are as follows: First, school should reduce the burden on teachers, so that teachers have more time for reflection and inquiry. Second, school should strengthen training, and improve the ability in this area through continuous training. Third, School should conduct a more scientific assessment of teachers, so that teachers can do a good job in teaching and become a qualified teacher.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

I think that the teaching academic ability of innovative application ability of teachers in higher vocational colleges is still relatively high, especially young teachers are good at accepting new things and applying them to teaching.

The promotion measures are as follows: First, school should strengthen the training of teachers. Second, school should carry out more exchange activities to learn from each other and improve. Third, school should carry out teaching skill competitions.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

I think this ability is weak. The main reason is that there is no good incentive mechanism and no good assessment mechanism, which is not conducive to stimulating their enthusiasm.

The promotion measures are as follows: First, school should strengthen school-enterprise cooperation to promote the normalization of teachers' practice in enterprises and improve teachers' practical ability. Second, school should strengthen team building to form a good team. The atmosphere promotes each other.

Interview 11

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think that with the expansion of enrollment, the number of teachers has increased, and an important part of the school's teaching staff is young teachers. The academic views of young teachers are diversified. They are close to the age of the students, and it is easier to communicate with the students. In teaching practice activities, they consider and solves the problems raised by students from the perspective of students, which is of great help to students in improving their learning enthusiasm and initiative.

It is recommended that schools support the establishment of a teaching concept that is consistent with the goal of cultivating talents from the construction of the teaching academic system and activities and maintain the teaching academic concept that keeps pace with the times.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think the level of professional knowledge teaching and academic ability of teachers in higher vocational colleges is generally good, but the development is uneven. There are differences in the development of teaching academic ability of teachers in higher vocational colleges. In addition, our school is a newly established higher vocational college. Teachers generally present a state of "emphasizing teaching, professional academics, scientific research, and teaching academic investment".

It is recommended that school should construct teachers' professional competence standards, to promote teachers' professional knowledge ability.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

In my opinion, most of the current forms of communication activities for teachers are collective lesson preparation in professional teaching and research sections, research and discussion of course teaching methods, and other forms of communication activities are relatively rare.

I suggest that schools hold various lectures, teaching reports, seminars and exchanges, and young teachers hold seminars to guide the growth of young teachers; the school forms an exchange system to promote mutual exchange of ideas and classroom teaching methods between teachers, so as to help each other improve together; use excellent teacher resources inside and outside the school to carry out various teaching lectures, improve teachers' teaching methods and means, and enhance teachers' ability to communicate.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry

ability of teachers in higher vocational colleges?

Teachers in higher vocational colleges in Guangxi tend to be younger. Teachers have less corporate experience. In terms of the structure of professional titles, the evaluation of professional titles usually focuses on teachers' scientific research ability and paper publications, rather than actual teaching skills. This also makes young teachers think that it is a high investment to devote their energy to the improvement of teaching methods low-yield things, unwilling to implement.

I suggest: first, school should strengthen training, and improve the ability in this area through continuous training. Second, School should conduct a more scientific assessment of teachers, so that teachers can do a good job in teaching and become a qualified teacher.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

The innovative application ability of teachers is restricted by factors such as their internal personality characteristics, concepts and attitudes, knowledge level and learning conditions, and the teaching academic ability of the innovative application ability of teachers is not obvious.

Schools continue to improve incentives and punishments for teachers. Improve and optimize various systems such as teacher performance assessment, professional title evaluation, and professional title promotion, so as to promote teachers to focus on academics and develop and innovate. Improve the incentive system for scientific research performance, establish goal incentives, salary incentives, spiritual incentives, emotional incentives, and development incentives to fully mobilize young teachers' curiosity and desire for knowledge, enhance their innovation and creativity, and cultivate young teachers' innovative thinking.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

There are relatively few teachers in schools with the qualities of both engineering and teaching. With the continuous improvement of the school, we will

gradually increase the investment in special funds for the teaching staff, continuously strengthen the training, strive to improve the internal environmental conditions, and adapt to changes in the external environment. Strengthen industry-university cooperation to improve teachers' abilities.

Interview 12

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

I think that the current teaching philosophy of teachers in higher vocational colleges in Guangxi still focuses on completing teaching tasks, and the knowledge taught sometimes deviates from the actual work position.

It is recommended that teachers should go to enterprises to carry out practical activities to ensure that both theoretical knowledge and technical level can keep pace with the times.

2. What is the current situation of the professional knowledge ability of teachers in higher vocational colleges in Guangxi? How to promote the professional knowledge ability of teachers in higher vocational colleges?

I think that the professional knowledge and ability of teachers in higher vocational colleges in Guangxi can barely keep up with the development of social economy, but their practical ability is slightly lacking.

It is recommended that school should encourage teachers to participate in skill competitions with teachers and students to improve their technical skills.

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi? How to promote the communication activity ability of teachers in higher vocational colleges?

I think that the exchange activities of teachers in higher vocational colleges in Guangxi are relatively weak, mainly due to the lack of exchange activities between institutions and between majors, especially international exchange activities.

It is suggested that higher vocational colleges and universities can regularly hold academic exchanges with brothers, formulate corresponding overseas training plans for teachers, and organize teachers to carry out overseas training. Other unit's

experts and scholars are regularly invited to come to the school for exchanges, and an international conference is organized every year to expand international scientific and technological academic exchanges.

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

I think teachers in higher vocational colleges in Guangxi lack the ability to reflect and explore, because without this awareness, teachers can just complete teaching tasks step by step, and there is no relevant guidance from the school.

It is recommended that school should carry out relevant special training for teachers, let teachers carry out reflection and inquiry activities, and produce corresponding results; establish cooperative teaching and research organizations for teachers, teacher workshops and other cooperative organizations, and carry out relevant teaching theory from time to time.

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

Teachers in higher vocational colleges in Guangxi lack the spirit of innovation, including the innovation of teaching mode and teaching design. Higher vocational colleges and universities can introduce more incentive measures to encourage teachers to carry out teaching innovation.

I suggest that schools should organize teachers to learn new policies and new technologies. Teachers are encouraged to actively participate in teaching reform projects by means of performance and title evaluation, and new technologies are innovatively introduced into teaching through teaching reform projects.

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges?

The proportion of double teachers in Guangxi higher vocational colleges is relatively low, and the quality and ability of double teachers are insufficient.

It is recommended that school recruit people with work experience by optimizing the echelon of teachers; encourage teachers to obtain industry certification to improve the quality of dual teachers.

Interview Summary

1. The Academic Connotation of Teaching is not fully Understood

In Guangxi higher vocational colleges, teaching is relative to "teaching academic". Teaching research and teaching reform mentioned more, which also led to many higher vocational teachers do not understand the connotation of "teaching academic", unfamiliar, failed to reach a consensus. In the interview, it is found that more teachers in Guangxi higher vocational colleges equate teaching scholarship with teaching research for two reasons: first, teachers' teaching scholarship has not been well guided and developed; second, schools have not formed a good range of teaching academic.

Therefore, in the interview, experts suggested to improve the Teaching academic concept of teachers in higher vocational colleges in Guangxi from two dimensions. One dimension is from the personal level of teachers, asking teachers to improve the teaching academic concept; Another dimension is from the school level, from the school's teaching and academic atmosphere and provide training, platform, incentive, and other guarantee conditions, to promote teachers to improve teaching and academic concepts.

2. The Professional Education is Relatively Insufficient

It is also known from the interview that teachers in higher vocational colleges in Guangxi generally attach importance to mastering professional knowledge in subject fields, but their ability to use pedagogy and psychology to teach and master new knowledge needs to be further improved. Teachers born in non-normal schools are particularly obvious in this aspect. Teachers' mastery and application of pedagogical theoretical knowledge greatly affect students' understanding and acceptance of knowledge.

Therefore, in the interview, experts suggested to improve the professional knowledge ability of teachers in Guangxi vocational colleges from two dimensions. One dimension is from the personal level of teachers, asking teachers to improve

their professional knowledge and ability; Another dimension is from the school level, from the school to provide relevant training, platform, reform evaluation, incentive and other guarantee conditions to promote teachers to improve professional knowledge and ability.

3. Professional Knowledge Ability Needs to be Improved

Teachers in higher vocational colleges communicate frequently among their peers, and most of the communication methods are informal. On the other hand, there are fewer teachers participating in exchanges at the national level and above, and fewer formal exchanges, which is at a moderate level. Through the interview survey, it is found that teachers like to communicate within the teaching and research group, but higher-level communication requires more energy to prepare, and teachers are not willing to spend too much time. Moreover, teachers do not have the consciousness to expand the depth and breadth of communication.

Therefore, in the interview, experts suggested improving the Professional knowledge ability of teachers in higher vocational colleges in Guangxi from two dimensions. One dimension is from the personal level of teachers, requiring teachers to establish the concept of sharing and actively participate in various forms and levels of communication activities; Teachers are asked to expand the depth and breadth of communication and to present the results of reflection on various platforms. Another dimension is from the school level, from the school to provide relevant training, communication platform, reform evaluation, incentive and other guarantee conditions to promote teachers to improve Professional knowledge ability.

4. Communication Activity Ability Needs to be Improved

Teachers in higher vocational colleges have a high level of reflection on curriculum, but lack depth of reflection on teaching process, and the degree of publicity of teachers' teaching academic achievements is not high. The interview survey shows that, on the one hand, the daily affairs of the school occupy a lot of teachers' time, and they have no time and energy to devote to them; On the other hand, teachers do not realize that they can shape their teaching reflections into teaching and academic outcomes.

Therefore, in the interview, experts suggested improving the Communication activity ability of teachers in higher vocational colleges in Guangxi from two dimensions. One dimension is from the personal level of teachers, requiring teachers to actively engage in teaching practice, have the consciousness of deepening teaching reflection, and form teaching academic achievements through teaching reflection. At the same time, we should actively participate in various activities such as teaching informatization competition, promote teaching by competition, and promote reflection by competition. Another dimension is from the school level, from the school to provide relevant training, Communication platform, reform evaluation, incentive, and other guarantee conditions, to promote teachers to improve Communication activity ability.

5. Reflection and Inquiry Ability is Not Strong

Most teachers in higher vocational colleges lack the consciousness of innovation, and professional teachers have not received the training of innovative ideas, and rarely integrate innovative ideas into actual professional teaching.

Therefore, in the interview, experts suggested improving the Reflection and inquiry ability of teachers in higher vocational colleges in Guangxi from two dimensions. One dimension is from the personal level of teachers, asking teachers to actively improve their Reflection and inquiry ability; Another dimension is from the school level, from the school to provide relevant training, communication platform, reform evaluation, incentive, and other guarantee conditions to promote teachers to improve their Reflection and inquiry ability.

6. The Qualities of Both Engineering and Teaching Ability is not High

The practical ability of teachers in higher vocational colleges is poor, the professional development of "double teachers" in higher vocational colleges lacks a guaranteed system, the time for teachers to practice in enterprises is not enough, and the enthusiasm of teachers to practice in enterprises is not high.

Therefore, in the interview, experts suggested improving the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi from two dimensions. One dimension is from the personal level of teachers, asking teachers to actively improve their Reflection and inquiry ability; Another dimension is

from the school level, from the school to provide relevant training, communication platform, reform evaluation, incentive and other guarantee conditions to promote teachers to improve the qualities of both engineering and teaching.

Part 3: Using the content analysis method to analyze the analysis results of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.

The current situation and other performance characteristics of teaching academic ability of teachers in higher vocational colleges in Guangxi obtained from the survey in the previous stage point out the direction for teachers in higher vocational colleges to consciously improve and develop their teaching academic ability. At this stage, on the basis of the existing literature, policy documents, questionnaire research results, and open-ended opinions and suggestions, adhere to the principle of problem orientation, from the perspective of teaching academic concepts, professional knowledge ability, communication activity ability, reflection and inquiry ability, innovative application ability and the quality and ability of double teachers, put forward targeted guidelines for further improving the teaching academic ability of teachers in higher vocational colleges. The proposed guidelines are as follows:

Table 4.10 Guidelines for improving teaching academic ability of teachers in higher vocational colleges in Guangxi.

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
Strengthening teaching academic concept	<ol style="list-style-type: none"> 1. Organize teacher training: The school organizes professional training courses, seminars and lectures to help teachers update their teaching concepts and improve their professional skills. 2. Provide academic resource support: Schools can establish academic research bases or teaching and research departments for teachers, provide academic journals, libraries and other resources for teachers, encourage teachers to actively participate in scientific research projects and academic exchange activities, and cultivate teachers' academic research interests and abilities. 3. Establish a teaching mentor system: The school may establish a teaching mentor system, with experienced and high-level teachers as mentors to guide and help new teachers, impart teaching experience and educational concepts, and guide them to form correct teaching concepts. 4. Encourage teachers to participate in professional development: The school encourages teachers to actively participate in education and teaching research projects, write education and teaching papers, and participate in academic conferences and seminars.

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
Improving professional knowledge ability	<ol style="list-style-type: none"> 1. Continuing education training: Organize and carry out various professional training, including learning new educational concepts, teaching methods and educational technology knowledge. 2. Discipline research and teaching research: Vocational teachers are encouraged to participate in discipline research and teaching research and strengthen research and understanding of industry development trends. Scientific research projects, educational reform projects and practice bases can be established to provide platform and resource support. 3. Develop a performance appraisal mechanism: Establish a scientific and fair performance appraisal mechanism and take teachers' professional knowledge and ability as one of the important evaluation indicators. Through the examination and incentive, the higher vocational teachers are encouraged to improve their own professional knowledge and ability. 4. Establish professional development files: Establish professional development files of higher vocational teachers, record their teaching experience, training participation, scientific research results and other information, and provide guidance and support for their personal development.

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
	5. Establish assessment and feedback training mechanisms to enable teachers to adjust and improve their own learning plans and objectives.
Improving Communication activity ability	<p>1. Establish a special communication platform: Build a special online platform or community for vocational teachers to communicate and cooperate. This platform can include forums, blogs, online courses, resource sharing and other functions, so that teachers can exchange experiences, share teaching resources, and discuss teaching methods.</p> <p>2. Organize professional training and seminars: Regularly organize professional training and academic seminars, inviting domestic and foreign excellent vocational teachers and experts to share their experience and research results.</p> <p>3. Implement two-way exchange programs: Carry out exchange programs between vocational teachers and between schools. Through these projects, teachers can personally experience the teaching environment and teaching methods of other schools, learn from the excellent experience of other schools, and improve their own teaching level.</p>

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
	<p>4. Encourage cooperative teaching and teaching research activities: Organize cooperative teaching activities among teachers to create an atmosphere of cooperation and sharing. At the same time, teachers are encouraged to participate in teaching and research activities to promote cooperation and exchange among teachers.</p> <p>5. Provide a reward mechanism: Establish a corresponding reward mechanism to encourage teachers to actively participate in exchange and cooperation activities. For teachers who have achieved excellent results in exchanges and cooperation, incentive measures such as honorary titles, promotion titles and bonuses can be given to improve teachers' participation and enthusiasm.</p>

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
Improving reflection and inquiry ability	<ol style="list-style-type: none"> <li data-bbox="712 655 1937 922">1. Provide professional training and guidance: Organize professional training and guidance for higher vocational teachers to cultivate their ability of reflection and inquiry. The training content can include how to conduct classroom reflection, how to ask questions and how to solve problems. At the same time, the school can send dedicated teaching and research teams or consultants to each school to provide real-time guidance and support. <li data-bbox="712 954 1937 1161">2. Establish a reflection and inquiry mechanism: Schools can establish a regular reflection and inquiry mechanism, requiring vocational teachers to conduct classroom reflection and teaching experience summary after the end of teaching. At the same time, teachers can also be asked to submit regular teaching research reports to share teaching practice and innovation experience. <li data-bbox="712 1193 1937 1337">3. Encourage cooperative exploration activities: Organize cooperative exploration activities among higher vocational teachers. Teachers are encouraged to apply for teaching research projects to carry out in-depth research on their own teaching problems.

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
	<p>4. Provide feedback and evaluation mechanism: Establish effective feedback and evaluation mechanism, conduct regular teaching evaluation of teachers, and give specific feedback. Organize regular evaluation activities among teachers to promote each other's learning and growth.</p> <p>5. Establish a Professional Learning community: Create an online professional learning community for vocational teachers to communicate and share. This community can provide resources sharing, teaching experience exchange, problem discussion and other functions.</p>
Improving innovation and application ability	<p>1. Creation of innovative application platform: The school establishes an innovative application platform for teachers to provide opportunities for vocational teachers to display and share their innovative teaching results. The platform can include educational technology resource libraries, online communication communities, etc., to encourage teachers to learn from each other. At the same time, the school has set up an innovative application reward mechanism to encourage teachers to actively participate in innovative practice.</p>

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
	<p>2. Provide professional training and guidance: The school organizes professional training in innovative teaching methods and application of educational technology to enhance the level of educational technology and innovation consciousness of higher vocational teachers.</p> <p>3. Encourage interdisciplinary cooperation: Promote interdisciplinary cooperation among higher vocational teachers and with teachers of other disciplines to stimulate innovative thinking.</p> <p>4. Provide project-driven learning opportunities: organize students to participate in project activities with practical significance and encourage vocational teachers to design and guide students to carry out project-driven learning.</p> <p>5. Support teachers' research and innovative practice: Encourage higher vocational teachers to actively participate in educational research and innovative practice, support them to apply for teaching research projects and carry out educational research work. The school provides scientific research funds, research platforms and related resources to encourage teachers to conduct in-depth research and innovative attempts in teaching practice and promote the continuous development and improvement of education</p>

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
	and teaching.
Improving the qualities of both engineering and teaching.	<ol style="list-style-type: none"> <li data-bbox="696 715 1948 927">1. Strengthen industry exchanges: Organize teachers to participate in industry-related academic conferences, forums, or training courses, communicate and cooperate with professionals in the engineering field, learn about the latest developments in engineering technology, and update teaching content and methods. <li data-bbox="696 949 1948 1161">2. Combination of practical teaching: vocational teachers are encouraged to actively participate in practical projects and practical teaching activities, combine theoretical knowledge with practical engineering projects, and improve practical operation ability and engineering design level. <li data-bbox="696 1184 1948 1396">3. Combination of industry, university, and research: actively promote the cooperation between schools and enterprises, establish a good cooperation mechanism between industry, university and research, so that teachers have the opportunity to deeply exchange and cooperate with enterprise engineers, and constantly update practical experience and technical knowledge.

Table 4.10 (Continued)

Guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	How to
	<p>4. Build a practice platform: Provide opportunities for vocational teachers to participate in practical engineering projects or enterprise practices, so that they can personally experience the engineering practice process and apply these experiences into teaching to improve their understanding and application of engineering knowledge.</p> <p>5. Establish a practice base: Cooperate with enterprises to establish a practice base or laboratory to provide a place for students and teachers to conduct engineering practice and research, strengthen the combination of theory and practice, cultivate students' engineering practice ability, and improve teachers' ability to guide engineering practice.</p> <p>6. Develop an evaluation mechanism: Establish a scientific evaluation mechanism to evaluate the qualities of both engineering and teaching. Formulate targeted training plans according to the evaluation results to help teachers further improve their abilities.</p>

According to table 4.10, the researcher provided the guides for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi in 6 aspects, which contain 30 measures. There are 4 measures for improving teaching academic concept, 5 measures for improving professional knowledge ability, 5 measures for improving communication activity ability, 5 measures for improving reflection and inquiry ability, 5 measures for improving innovation and application ability, 6 measures for improving the qualities of both engineering and teaching.

Part 5: The analysis results of the feasibility evaluation of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. Data are presented as average value and standard deviation.

Table 4.11 The average value and standard deviation of the feasibility evaluation of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi

No	Research on Improving the teaching academic ability of teachers in higher vocational colleges in Guangxi	Feasibility		
		\bar{X}	S.D.	level
1	Strengthening teaching academic concept	4.84	0.71	Highest
2	Improving professional knowledge ability	4.67	0.86	Highest
3	Improving communication activity ability	4.84	0.85	Highest
4	Improving reflection and inquiry ability	4.50	0.67	Highest
5	Improving Innovation and application ability	4.50	0.76	Highest
6	Improving the qualities of both engineering and teaching.	4.50	0.77	Highest
total		4.64	0.66	Highest

It can be seen from Table 4.11 that the teaching academic ability of teachers in higher vocational colleges was at the highest (\bar{X} =4.64), indicating that the guidelines were feasible to improve the teaching academic ability.

Table 4.12 The average value and standard deviation of the feasibility evaluation of the guidelines for strengthening teaching academic concept

No	The guidelines for strengthening teaching academic concept	Feasibility		
		\bar{X}	S.D.	level
1	Organize teacher training: The school organizes professional training courses, seminars, and lectures to help teachers update their teaching concepts and improve their professional skills.	4.93	0,73	Highest
2	Provide academic resource support: Schools can establish academic research bases or teaching and research departments for teachers, provide academic journals, libraries and other resources for teachers, encourage teachers to actively participate in scientific research projects and academic exchange activities, and cultivate teachers' academic research interests and abilities.	4.78	0.78	Highest
3	Establish a teaching mentor system: The school may establish a teaching mentor system, with experienced and high-level teachers as mentors to guide and help new teachers, impart teaching experience and educational concepts, and guide them to form correct teaching concepts.	4.86	0.67	Highest
4	Encourage teachers to participate in professional development: The school encourages teachers to actively participate in education and teaching research projects, write education and teaching papers, and participate in academic conferences and seminars.	4.72	0.76	Highest
total		4.84	0.71	Highest

It can be seen from Table 4.12 that the average value of the feasibility evaluation of the guidelines for strengthening teaching academic concept at the highest (\bar{X} =4.84), indicating that the guidelines were feasible for strengthening academic awareness of teaching.

Table 4.13 The average value and standard deviation of the feasibility evaluation of the guidelines for improving professional knowledge ability

NO	The guidelines for improving professional knowledge ability	Feasibility		
		\bar{X}	S.D.	level
1	Continuing education training: Organize and carry out various professional training, including learning new educational concepts, teaching methods and educational technology knowledge.	4.76	0.78	Highest
2	Discipline research and teaching research: vocational teachers are encouraged to participate in discipline research and teaching research and strengthen research and understanding of industry development trends. Scientific research projects, educational reform projects and practice bases can be established to provide platform and resource support.	4.51	0.85	Highest
3	Develop a performance appraisal mechanism: Establish a scientific and fair performance appraisal mechanism and take teachers' professional knowledge and ability as one of the important evaluation indicators. Through the examination and incentive, the higher vocational teachers are encouraged to improve their own professional knowledge and ability.	4.74	0.77	Highest
4	Establish professional development files: Establish professional development files of higher vocational teachers, record their teaching experience, training participation, scientific research results and other information, and provide guidance and support for their personal development.	4.62	0.92	Highest
5	Establish assessment and feedback training mechanisms to enable teachers to adjust and improve their own learning plans and objectives.	4.66	0.90	Highest
total		4.67	0.86	Highest

It can be seen from Table 4.13 that the average value of the feasibility evaluation of the guidelines for improving professional knowledge ability was at the highest ($\bar{X} = 4.67$), indicating that the guidelines were feasible for improving professional knowledge ability.

Table 4.14 The average value and standard deviation of the feasibility evaluation of the guidelines for improving communication activity ability

No	The guidelines for improving communication activity ability	Feasibility		
		\bar{X}	S.D.	level
1	Implement two-way exchange programs: carry out exchange programs between vocational teachers and between schools. Through these projects, teachers can personally experience the teaching environment and teaching methods of other schools, learn from the excellent experience of other schools, and improve their own teaching level.	4.84	0.83	Highest
2	Organize professional training and seminars: Regularly organize professional training and academic seminars, inviting domestic and foreign excellent vocational teachers and experts to share their experience and research results.	4.77	0.64	Highest
3	Establish a special communication platform: Build a special online platform or community for vocational teachers to communicate and cooperate. This platform can include forums, blogs, online courses, resource sharing and other functions, so that teachers can exchange experiences, share teaching resources, and discuss teaching methods.	4.91	0.93	Highest
4	Encourage cooperative teaching and teaching research activities: Organize cooperative teaching activities among teachers to create an atmosphere of cooperation and sharing. At the same time, teachers are encouraged to participate in teaching and research activities to promote cooperation and exchange among teachers.	4.71	0.84	Highest

Table 4.14 (Continued)

No	The guidelines for improving communication activity ability	Feasibility		
		\bar{X}	S.D.	Level
5	Provide a reward mechanism: Establish a corresponding reward mechanism to encourage teachers to actively participate in exchange and cooperation activities. For teachers who have achieved excellent results in exchanges and cooperation, incentive measures such as honorary titles, promotion titles and bonuses can be given to improve teachers' participation and enthusiasm.	4.66	0.74	Highest
total		4.83	0.85	Highest

It can be seen from Table 4.14 that the average value of the feasibility evaluation of the guidelines for improving communication activity ability was at the highest ($\bar{X}=4.83$), indicating that the guidelines were feasible for improving communication activity ability.

Table 4.15 The average value and standard deviation of the feasibility evaluation of the guidelines for improving reflection and inquiry ability

No	The guidelines for improving reflection and inquiry ability	Feasibility		
		\bar{X}	S.D.	Level
1	Provide professional training and guidance: Organize professional training and guidance for higher vocational teachers to cultivate their ability of reflection and inquiry. The training content can include how to conduct classroom reflection, how to ask questions and how to solve problems. At the same time, the school can send dedicated teaching and research teams or consultants to each school to provide real-time guidance and support.	4.34	0.63	Highest

Table 4.15 (Continued)

No	The guidelines for improving reflection and inquiry ability	Feasibility		
		\bar{X}	S.D.	Level
2	Establish a reflection and inquiry mechanism: schools can establish a regular reflection and inquiry mechanism, requiring vocational teachers to conduct classroom reflection and teaching experience summary after the end of teaching. At the same time, teachers can also be asked to submit regular teaching research reports to share teaching practice and innovation experience.	4.37	0.81	Highest
3	Encourage cooperative exploration activities: Organize cooperative exploration activities among higher vocational teachers. Teachers are encouraged to apply for teaching research projects to carry out in-depth research on their own teaching problems.	4.61	0.93	Highest
4	Provide feedback and evaluation mechanism: Establish effective feedback and evaluation mechanism, conduct regular teaching evaluation of teachers, and give specific feedback. Organize regular evaluation activities among teachers to promote each other's learning and growth. among teachers.	4.31	0.84	Highest
5	Establish a Professional Learning community: Create an online professional learning community for vocational teachers to communicate and share. This community can provide resources sharing, teaching experience exchange, problem discussion and other functions.	4.56	0.71	Highest
total		4.50	0.88	Highest

It can be seen from Table 4.15 that the average value of the feasibility evaluation of the guidelines for improving reflection and inquiry ability was at the highest ($\bar{X}=4.50$), indicating that the guidelines were feasible for improving reflection and inquiry ability.

Table 4.16 The average value and standard deviation of the feasibility evaluation of the guidelines for improving innovation and application ability

No	The guidelines for improving innovation and application ability	Feasibility		
		\bar{X}	S.D.	level
1	Creation of innovative application platform: The school establishes an innovative application platform for teachers to provide opportunities for vocational teachers to display and share their innovative teaching results. The platform can include educational technology resource libraries, online communication communities, etc., to encourage teachers to learn from each other. At the same time, the school has set up an innovative application reward mechanism to encourage teachers to actively participate in innovative practice.	4.53	0.85	Highest
2	Provide professional training and guidance: The school organizes professional training in innovative teaching methods and application of educational technology to enhance the level of educational technology and innovation consciousness of higher vocational teachers.	4.34	0.71	Highest
3	Encourage interdisciplinary cooperation: Promote interdisciplinary cooperation among higher vocational teachers and with teachers of other disciplines to stimulate innovative thinking.	4.70	0.74	Highest
4	Provide project-driven learning opportunities: organize students to participate in project activities with practical significance, and encourage vocational teachers to design and guide students to carry out project-driven learning.	4.39	0.83	Highest

Table 4.16 (Continued)

No	The guidelines for improving innovation and application ability	Feasibility		
		\bar{X}	S.D.	level
5	Support teachers' research and innovative practice: Encourage higher vocational teachers to actively participate in educational research and innovative practice, support them to apply for teaching research projects and carry out educational research work. The school provides scientific research funds, research platforms and related resources to encourage teachers to conduct in-depth research and innovative attempts in teaching practice and promote the continuous development and improvement of education and teaching.	4.72	0.65	Highest
total		4.50	0.67	Highest

It can be seen from Table 4.16 that the average value of the feasibility evaluation of the guidelines for improving innovation and application ability was at the highest ($\bar{X}=4.50$), indicating that the guidelines were feasible for improving innovation and application ability.

Table 4.17 The average value and standard deviation of the feasibility evaluation of the guidelines for improving the qualities of both engineering and teaching.

NO	The guidelines for improving the qualities of both engineering and teaching.	Feasibility		
		\bar{X}	S.D.	level
1	Strengthen industry exchanges: Organize teachers to participate in industry-related academic conferences, forums or training courses, communicate and cooperate with professionals in the engineering field, learn about the latest developments in engineering technology, and update teaching content and methods.	4.66	0.59	Highest

Table 4.17 (Continued)

NO	The guidelines for improving the qualities of both engineering and teaching.	Feasibility		
		\bar{X}	S.D.	level
2	Combination of practical teaching: vocational teachers are encouraged to actively participate in practical projects and practical teaching activities, combine theoretical knowledge with practical engineering projects, and improve practical operation ability and engineering design level.	4.69	0.71	Highest
3	Combination of industry, university and research: actively promote the cooperation between schools and enterprises, establish a good cooperation mechanism between industry, university and research, so that teachers have the opportunity to deeply exchange and cooperate with enterprise engineers, and constantly update practical experience and technical knowledge.	4.41	0.68	Highest
4	Build a practice platform: Provide opportunities for vocational teachers to participate in practical engineering projects or enterprise practices, so that they can personally experience the engineering practice process and apply these experiences into teaching to improve their understanding and application of engineering knowledge.	4.33	0.55	Highest
5	Establish a practice base: Cooperate with enterprises to establish a practice base or laboratory to provide a place for students and teachers to conduct engineering practice and research, strengthen the combination of theory and practice, cultivate students' engineering practice ability, and improve teachers' ability to guide engineering practice.	4.36	0.71	Highest
6	Develop an evaluation mechanism: Establish a scientific evaluation mechanism to evaluate the qualities of both engineering and teaching. Formulate targeted training plans according to the evaluation results to help teachers further improve their abilities.	4.55	0.62	Highest
total		4.50	0.66	Highest

It can be seen from Table 4.17 that the average value of the feasibility evaluation of the guidelines for improving the qualities of both engineering and teaching was at the highest ($\bar{X}=4.50$, indicating that the guidelines were feasible for improving the qualities of both engineering and teaching.

Chapter 5

Conclusion Discussion and Recommendations

The research in the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The objectives of this research were: 1) to study the present situation of teaching academic ability of teachers in higher vocational colleges in Guangxi. 2) to put forward the guideline to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi. 3) to evaluate the feasibility of the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The teaching academic ability of teachers includes the following 6 aspects: 1) teaching academic concept, 2) professional knowledge ability, 3) communication activity ability, 4) reflection and inquiry ability, 5) innovation and application ability, 6) the qualities of both engineering and teaching. The sample group of this study was 351 teachers from 4 representative higher vocational colleges in Guangxi. The interview group consisted of 12 persons in charge of the teaching affairs office and personnel department of higher vocational colleges. The research methods were content analysis, structured interview, and questionnaire survey. The statistical methods were percentage, average value, and standard deviation. The conclusions, discussions and recommendations of this study were as follows:

Conclusion

The research in the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The researchers summarized the conclusion into 3 parts, as follows:

Part 1: the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi.

Part 2: the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi

Part 3: the feasibility of guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.

Part 1: the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi.

The current situation of teaching academic ability of higher vocational teachers in 6 aspects was at a high level. According to this study, all aspects were ranked from high to low level as follows: The highest level was teaching academic concept, in order, professional knowledge ability, reflection and inquiry ability, communication activity ability, innovation and application ability, with the qualities of both engineering and teaching at the lowest level.

The teaching academic concept was at a high level. According to the results of this study, the ranking from the highest level to the lowest level were as follows: the highest level was "I look at teaching from the perspective of learning", followed by "I establish a comprehensive and open academic view" and "I establish a comprehensive and open academic view "was the lowest level.

The professional knowledge ability was at a high level. According to the results of this study, the ranking from the highest level to the lowest level were as follows: The highest level was " I constantly improves and develops it in teaching practice" and then was "I have solid professional practical knowledge" and "I have dabbled in new knowledge, new technology, new technology, and new methods in the frontier of the professional field. "was the lowest level.

The communication activity ability was at a high level. According to the results of this study, the ranking from the highest level to the lowest level were as follows: The highest level was" I participate in public classes among teachers and peers" and then was" I am willing to disclose my teaching process and share my teaching results" and " I participate in formal forms of communication, such as seminar reports, conference presentations, writing results reports and publishing journal papers, etc.." was the lowest level.

The reflection and inquiry ability were at a high level. According to the results of this study, the ranking from the highest level to the lowest level were as follows: The highest level was "I formed a good habit of reflecting on my teaching every day" and then "I reflections on teaching content and teaching methods (teaching process)"and "On the basis of teaching reflection, write relevant teaching articles "was the lowest level.

The innovation and application ability were at a high level. According to the results of this study, the ranking from the highest level to the lowest level were as follows: The highest level was “I can keep up with The Times, master new technologies, and apply them to my teaching”, and then “I actively participate in various innovation competitions” and “I constantly absorb and understand new concepts, update and develop old educational concepts, combine the needs of the times” was the lowest level.

The qualities of both engineering and teaching was at medium level. According to the results of this study, the ranking from the highest level to the lowest level is as follows: The highest level was “I took part in a vocational skills contest and won a prize” and then “I think the higher the proportion of teachers with dual quality, the higher the level of school running” and “I actively participate in social practice in enterprises” was the lowest level.

Part 2: the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.

The guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi contain 30 measures. There are 4 measures for improving teaching academic concept, 5 measures for improving professional knowledge ability, 5 measures for improving communication activity ability, 5 measures for improving reflection and inquiry ability, 5 measures for improving innovation and application ability, 6 measures for improving the qualities of both engineering and teaching.

For teaching academic concept, there are 4 measures for improving teaching academic concept of teachers in higher vocational colleges in Guangxi as follow:

1) Organize teacher training: The school organizes professional training courses, seminars, and lectures to help teachers update their teaching concepts and improve their professional skills.

2) Provide academic resource support: Schools can establish academic research bases or teaching and research departments for teachers, provide academic

journals, libraries, and other resources for teachers, encourage teachers to actively participate in scientific research projects and academic exchange activities, and cultivate teachers' academic research interests and abilities.

3) Establish a teaching mentor system: The school may establish a teaching mentor system, with experienced and high-level teachers as mentors to guide and help new teachers, impart teaching experience and educational concepts, and guide them to form correct teaching concepts.

4) Encourage teachers to participate in professional development: The school encourages teachers to actively participate in education and teaching research projects, write education and teaching papers, and participate in academic conferences and seminars.

For professional knowledge ability, there are 5 measures for improving teaching academic concept of teachers in higher vocational colleges in Guangxi as follow:

1) Continuing education training: Organize and carry out various professional training, including learning new educational concepts, teaching methods and educational technology knowledge.

2) Discipline research and teaching research: Vocational teachers are encouraged to participate in discipline research and teaching research and strengthen research and understanding of industry development trends. Scientific research projects, educational reform projects and practice bases can be established to provide platform and resource support.

3) Develop a performance appraisal mechanism: Establish a scientific and fair performance appraisal mechanism and take teachers' professional knowledge and ability as one of the important evaluation indicators. Through the examination and incentive, the higher vocational teachers are encouraged to improve their own professional knowledge and ability.

4) Establish professional development files: Establish professional development files of higher vocational teachers, record their teaching experience, training participation, scientific research results and other information, and provide guidance and support for their personal development.

5) Establish assessment and feedback training mechanisms to enable teachers to adjust and improve their own learning plans and objectives.

For communication activity ability, there are 5 measures for improving teaching academic concept of teachers in higher vocational colleges in Guangxi as follow:

1) Establish a special communication platform: Build a special online platform or community for vocational teachers to communicate and cooperate. This platform can include forums, blogs, online courses, resource sharing and other functions, so that teachers can exchange experiences, share teaching resources, and discuss teaching methods.

2) Organize professional training and seminars: Regularly organize professional training and academic seminars, inviting domestic and foreign excellent vocational teachers and experts to share their experience and research results.

3) Implement two-way exchange programs: Carry out exchange programs between vocational teachers and between schools. Through these projects, teachers can personally experience the teaching environment and teaching methods of other schools, learn from the excellent experience of other schools, and improve their own teaching level.

4) Encourage cooperative teaching and teaching research activities: Organize cooperative teaching activities among teachers to create an atmosphere of cooperation and sharing. At the same time, teachers are encouraged to participate in teaching and research activities to promote cooperation and exchange among teachers.

5) Provide a reward mechanism: Establish a corresponding reward mechanism to encourage teachers to actively participate in exchange and cooperation activities. For teachers who have achieved excellent results in exchanges and cooperation, incentive measures such as honorary titles, promotion titles and bonuses can be given to improve teachers' participation and enthusiasm.

For reflection and inquiry ability, there are 5 measures for improving teaching academic concept of teachers in higher vocational colleges in Guangxi as follow:

1) Provide professional training and guidance: Organize professional training and guidance for higher vocational teachers to cultivate their ability of reflection and inquiry. The training content can include how to conduct classroom reflection, how to ask questions and how to solve problems. At the same time, the school can send dedicated teaching and research teams or consultants to each school to provide real-time guidance and support.

2) Establish a reflection and inquiry mechanism: Schools can establish a regular reflection and inquiry mechanism, requiring vocational teachers to conduct classroom reflection and teaching experience summary after the end of teaching. At the same time, teachers can also be asked to submit regular teaching research reports to share teaching practice and innovation experience.

3) Encourage cooperative exploration activities: Organize cooperative exploration activities among higher vocational teachers. Teachers are encouraged to apply for teaching research projects to carry out in-depth research on their own teaching problems.

4) Provide feedback and evaluation mechanism: Establish effective feedback and evaluation mechanism, conduct regular teaching evaluation of teachers, and give specific feedback. Organize regular evaluation activities among teachers to promote each other's learning and growth.

5) Establish a Professional Learning community: Create an online professional learning community for vocational teachers to communicate and share. This community can provide resources sharing, teaching experience exchange, problem discussion and other functions.

For Innovation and application ability, there are 5 measures for improving teaching academic concept of teachers in higher vocational colleges in Guangxi as follow:

1) Creation of innovative application platform: The school establishes an innovative application platform for teachers to provide opportunities for vocational teachers to display and share their innovative teaching results. The platform can include educational technology resource libraries, online communication communities, etc., to encourage teachers to learn from each other. At the same

time, the school has set up an innovative application reward mechanism to encourage teachers to actively participate in innovative practice.

2) Provide professional training and guidance: The school organizes professional training in innovative teaching methods and application of educational technology to enhance the level of educational technology and innovation consciousness of higher vocational teachers.

3) Encourage interdisciplinary cooperation: Promote interdisciplinary cooperation among higher vocational teachers and with teachers of other disciplines to stimulate innovative thinking.

4) Provide project-driven learning opportunities: Organize students to participate in project activities with practical significance and encourage vocational teachers to design and guide students to carry out project-driven learning.

5) Support teachers' research and innovative practice: Encourage higher vocational teachers to actively participate in educational research and innovative practice, support them to apply for teaching research projects and carry out educational research work. The school provides scientific research funds, research platforms and related resources to encourage teachers to conduct in-depth research and innovative attempts in teaching practice and promote the continuous development and improvement of education and teaching.

For the qualities of both engineering and teaching, there are 6 measures for improving teaching academic concept of teachers in higher vocational colleges in Guangxi as follow:

1) Strengthen industry exchanges: Organize teachers to participate in industry-related academic conferences, forums, or training courses, communicate and cooperate with professionals in the engineering field, learn about the latest developments in engineering technology, and update teaching content and methods.

2) Combination of practical teaching: vocational teachers are encouraged to actively participate in practical projects and practical teaching activities, combine theoretical knowledge with practical engineering projects, and improve practical operation ability and engineering design level.

3) Combination of industry, university, and research: Actively promote the cooperation between schools and enterprises, establish a good cooperation mechanism between industry, university and research, so that teachers have the opportunity to deeply exchange and cooperate with enterprise engineers, and constantly update practical experience and technical knowledge.

4) Build a practice platform: Provide opportunities for vocational teachers to participate in practical engineering projects or enterprise practices, so that they can personally experience the engineering practice process and apply these experiences into teaching to improve their understanding and application of engineering knowledge.

5) Establish a practice base: Cooperate with enterprises to establish a practice base or laboratory to provide a place for students and teachers to conduct engineering practice and research, strengthen the combination of theory and practice, cultivate students' engineering practice ability, and improve teachers' ability to guide engineering practice.

6) Develop an evaluation mechanism: Establish a scientific evaluation mechanism to evaluate the qualities of both engineering and teaching. Formulate targeted training plans according to the evaluation results to help teachers further improve their abilities.

Part 3: The feasibility of guidelines for improving the teaching academic ability of teachers in Higher Vocational Colleges in Guangxi.

The feasibility of the guidelines of teaching academic ability of teachers in higher vocational colleges was at the highest level, between 4.50 and 5.00 ($\bar{X}=4.64$), indicating that the guidelines of teaching academic ability improvement of teachers in higher vocational colleges were feasible.

The feasibility of guidelines for strengthening teaching academic concept was highest. Among them, the measures "organize teacher training" and "establish a teaching mentor system" "provide academic resource support" "encourage teachers to participate in professional development" showed the highest level of suitability.

The feasibility of guidelines for improving professional knowledge ability was highest. Among them, the measures "continuing education training" and "discipline

research and teaching research” and “Establish professional development files” “develop a performance appraisal mechanism” and “establish assessment and feedback training mechanisms” showed the highest level of suitability.

The feasibility of guidelines for improving communication activity ability was high. Among them, the measures "establish a special communication platform" and “implement two-way exchange programs” and “organize professional training and seminars” and “encourage cooperative teaching and teaching research activities” and “provide a reward mechanism: establish a corresponding reward mechanism” showed the highest level of suitability.

The feasibility of guidelines for improving innovation and application ability was high. Among them, the measures "support teachers' research and innovative practice" and “encourage interdisciplinary cooperation” and “creation of innovative application platform” showed the highest level of suitability.

The feasibility of guidelines for improving the qualities of both engineering and teaching was highest. Among them, the measures "creation of innovative application platform" and “encourage interdisciplinary cooperation” and “support teachers' research and innovative practice” showed the highest level of suitability.

Discussion

The research in the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The researcher summarizes the discussion into 3 parts, details as follows:

Part 1: the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi.

Part 2: the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi

Part 3: the feasibility of guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.

Part 1: the current situation of the teaching academic ability of teachers in higher vocational colleges in Guangxi.

The overall level of teaching and academic ability of higher vocational colleges in Guangxi was high, but the implementation level of each dimension was uneven, the teaching academic concept level was the highest, the qualities of both engineering and teaching was the lowest.

First, the teaching academic ability of teachers in higher vocational colleges in Guangxi was higher, but uneven levels of execution across all dimensions. On the one hand, because China attaches great importance to the construction of higher vocational teachers, it had formulated many preferential policies to improve the high-quality development of vocational education, such as the National Implementation Plan for Vocational Education Reform and Opinions on Promoting the High-quality Development of Modern Vocational Education. It had formulated the "Notice on carrying out actions to Improve the ability of vocational education Teachers (2022)", "Notice on Implementing the Plan for Improving the Quality of Vocational College Teachers (2021-2025)", "Notice on Further Strengthening the construction of National Vocational College teachers' Teaching Innovation Team", "Notice on doing a good job in the identification of" Double-qualified "teachers in vocational Education", "the Notice on Implementing the Plan for Improving the Quality of Teachers in Vocational Colleges (2021-2025)", and "the Implementation Plan for Deepening the Reform of the Construction of "Double Qualified" teachers in Vocational Education in the New Era" to improve the quality and ability of teachers in higher vocational colleges. On the other hand, Guangxi also attached great importance to the training of teachers in higher vocational colleges. The Party Committee and government of Guangxi Autonomous Region formulated and issued Several Measures on Further Strengthening the Construction of Teachers in the New Era to consolidate the policy system of teachers in vocational colleges and universities. The Fourteenth Five-Year Plan for Teacher Training in Guangxi Vocational Colleges was issued, and five key projects including the "three education" reform research and training project, the cultivation project of famous teachers and principals, the school-enterprise two-way exchange project, the "Teaching and Research Competition" ability improvement project, and the basic development ability improvement project were set up in combination with the actual situation, so

as to continuously improve the pertinacity and scientificity of teacher training in vocational colleges. However, there was also an imbalance in the development of various dimensions. As some surveyors and interviewers had said, many favorable policies had been implemented in different schools to different degrees, and because of the gender, age, professional title and other related factors of vocational teachers, there were different perceptions of the teaching and academic ability of vocational teachers.

Secondly, in the ranking of the 6 dimensions of teaching academic ability, the surveyors all agree that teachers in higher vocational colleges in Guangxi had the highest level of teaching academic concept. In the General Plan for Deepening the Reform of Educational Evaluation in the New Era issued by the CPC Central Committee and The State Council, it emphasizes the reform of teacher evaluation, promoting the implementation of the requirements in the mission of teaching and educating people, highlighting the actual performance of education and teaching, emphasizing the earnest performance of education and teaching responsibilities as the basic requirements for evaluating teachers, guiding teachers to perform each lesson well and caring for each student. It emphasized improving the evaluation standards for the identification, employment, and assessment of teachers in higher vocational colleges, and emphasized the level of practical skills and professional teaching ability. The Guiding Opinions on the Formulation and Implementation of the Program for Training Professional Talents in Vocational Colleges issued by the Ministry of Education required teachers to lay equal emphasis on teaching basic knowledge and cultivating professional ability, strengthen the cultivation of students' professional quality and accumulation of professional skills, and integrate professionalism, professionalism, and craftsman spirit into the whole process of personnel training. To train qualified vocational students, vocational teachers must follow the concept of higher vocational education required by the Ministry of Education and form the teaching concept required by the characteristics of higher vocational education.

Third, in terms of the 6 dimensions of the teaching academic ability of higher vocational teachers, surveyors had always believed that the level of the qualities of

both engineering and teaching was the lowest. Since Wang Yicheng put forward the concept of "the qualities of both engineering and teaching" in 1991, the State Education Commission first expressed "the qualities of both engineering and teaching" in a document in 1995, and until The State Council put forward multiple measures to build "the qualities of both engineering and teaching" in 2019, the concept of "the qualities of both engineering and teaching" had been more than 20 years. Although the academic circle had repeatedly emphasized the need to strengthen the construction of "the qualities of both engineering and teaching", the quality and ability of higher vocational teachers were still low in practice. First, the professional quality of "the qualities of both engineering and teaching" teachers in higher vocational colleges lacked measurement standards. In 2019, The State Council stipulated in the Implementation Plan of the National Vocational Education Reform the "enterprise work experience", "academic background", "full rotation training system", "recruitment method", "two-way flow", "practical training method" and "performance salary" of "the qualities of both engineering and teaching" teachers, but this only belonged to the admission criteria for becoming "the qualities of both engineering and teaching" teachers. However, professional standards for "double qualified" teachers in higher vocational colleges had not been formulated, to provide assessment basis for what professional standards "double qualified" teachers in higher vocational colleges should have before service, and what professional standards lecturers, associate professors and professors should meet. Second, there was a lack of guaranteed system for the professional development of "double teachers" in higher vocational colleges, a lack of "double teachers" qualification certification system, a lack of "double teachers" assessment and evaluation system, and a lack of "double teachers" cooperative training system. Third, the professional quality of "double-qualified" teachers in higher vocational colleges lacked pre-service training, and the cooperative training mechanism of "double-qualified" teachers was lacking. Fourthly, the lack of matching environment for the professional quality of "double-qualified" teachers in higher vocational colleges made it difficult for teachers to carry out full-time training because of their heavy teaching tasks.

Part 2: The guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi

The researcher provided the guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi in 6 aspects, which contain 30 measures. There were 4 measures for improving teaching academic concept, 5 measures for improving professional knowledge ability, 5 measures for improving communication activity ability, 5 measures for improving reflection and inquiry ability, 5 measures for improving innovation and application ability, 6 measures for improving the qualities of both engineering and teaching.

These measures were mainly derived from the results of teachers' questionnaire in the previous stage. The problems reflected in these results pointed out the direction for the improvement of teaching academic ability of higher vocational teachers. The guidelines were based on the research results of questionnaire survey and interview, from the perspective of problem solving, and from the needs of higher vocational teachers' ability improvement. The shortcomings were reflected from 6 dimensions of teachers' teaching academic concept, professional knowledge level, communicative activity ability, communicative activity ability, innovative application ability and, and the qualities of both engineering and teaching direction of improvement was proposed. This paper put forward some guidelines for improving the teaching and academic ability of higher vocational teachers from 6 aspects, such as strengthening teachers' academic concept and enhancing professional knowledge.

First, formulate measures to strengthen the academic concept of teaching. The results showed that the teaching academic view of teachers in higher vocational colleges in Guangxi was still at a higher level, but not the highest level. Through the interview survey, it was found that the current reference and understanding of the concept of teaching and learning in higher vocational colleges were not enough, and teachers' understanding of teaching and learning was uneven. Many teachers simply treat teaching and learning as personal teaching and research, and teachers had solidified traditional academic concepts, which leads to various problems in the

practical implementation of teaching and learning. Therefore, it was particularly important to help teachers in higher vocational colleges renew the traditional concept and enhance the academic consciousness of teaching. Yu Yulong (2012, p.33) studied the teaching and academic status quo of Chinese universities and put forward corresponding development countermeasures. It also included organizing teacher training, providing academic resource support, establishing a teaching mentor system and other measures.

Second, develop measures to enhance professional knowledge ability. Through the questionnaire survey data, it could be seen that teachers in higher vocational colleges were proficient in professional knowledge, but their mastery of pedagogy and subject teaching knowledge needs to be further improved, and their mastery of professional knowledge had not kept up. Through the interview survey, it was found that most teachers in higher vocational colleges did not have the professional background of teachers. Once teachers entered the profession, they did not go deep into the industry and their professional knowledge was not updated. Therefore, for teachers in higher vocational colleges, based on the characteristics of their own disciplines was the basis, on this basis, constantly improve the theoretical knowledge of pedagogy, pay attention to the frontier trends of disciplines, grasp the research hotspots of disciplines, constantly improve professional quality, and promote the development of teaching ability. Therefore, it was necessary to provide continuing education, discipline research and teaching research, develop a performance appraisal mechanism and other measures. Cao Qilin (2013, p.91) also proposed to improve teachers' teaching academic ability and its path by improving the functions of teachers' development centers.

Third, formulate measures to improve Communication activity ability. The questionnaire survey data showed that the communication among teachers in higher vocational colleges was relatively frequent, and most of the communication methods were informal. On the other hand, there were fewer teachers participating at the national level and above, and fewer formal exchanges, which was in the middle level. Through the interview survey, it was found that teachers like to communicate within the teaching and research group, but higher-level

communication required more energy to prepare, and teachers were reluctant to spend too much time. Teachers lacked the awareness to expand the depth and breadth of communication. Therefore, measures such as the establishment of a special communication platform, the organization of professional training and seminars should be taken to promote the idea of sharing among teachers. Actively participate in various forms and levels of exchange activities. Teachers need to expand the depth and breadth of communication and present the results of reflection on various platforms. Wang Guilin (2012, p.103) summarized the research on academic teaching in domestic universities, and also pointed out the shortcomings in communication activity ability and the necessity of establishing communication platforms at all levels.

Fourth, formulate measures to improve reflection and inquiry ability. Through the questionnaire survey data, it could be seen that teachers in higher vocational colleges had a high level of reflection on the curriculum, but lacked depth of reflection on the teaching process, and the degree of publicity of teachers' teaching academic achievements was not high. According to the interview survey, the daily affairs of the school occupied a lot of teachers' time, and they had no time and energy to devote to them. Teachers did not realize that their own teaching reflection could form teaching and academic results. The school had no incentive mechanism for this ability. Therefore, establishing a professional learning community, providing feedback and evaluation mechanism and other measures could effectively solve the above problems.

Fifth, formulate measures to improve innovation and application ability. Surveys and interviews showed that some higher vocational teachers lacked the awareness of innovation, had not received the training of innovative ideas, rarely integrated innovative ideas into actual professional teaching, and the school's support for this ability training was not enough. Therefore, measures such as providing professional training and guidance, supporting teachers' research and innovative practice are formulated to enhance teachers' innovative application ability.

Sixth, formulate measures for the qualities of both engineering and teaching. Through the investigation, it was found that the overall quality level of teachers in higher vocational colleges was in the middle level, which was the lowest score of the teacher's teaching academic ability, indicating that the ability was very weak and could not reach the level required by the Ministry of Education. Through the interview survey, it was found that the practical ability of teachers in higher vocational colleges was poor, the professional development of "double-qualified" teachers in higher vocational colleges lacked a guaranteed system, the time for teachers to practice in enterprises was not enough, and the enthusiasm of teachers to practice in enterprises was not high. Strengthen industry exchanges, combination of practical teaching, build a practice platform and other measures could solve the above problems. Liuxuemei (2017, p.83) analyzed the current situation, problems and causes of the development of higher vocational teachers in Guangxi, such as the relatively lagging academic research on higher vocational education and the shortage of "double-qualified" teachers, and then proposed countermeasures for the academic development and teaching ability improvement of higher vocational teachers in Guangxi, such as strengthening industry exchanges, combination of practical teaching, combination of industry, university and research construction and other measures.

Part 3: the feasibility of guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi.

The guidelines were formulated from the individual level of teachers and the level of school organization. As can be seen from the scores of experts on the feasibility of the guidelines, experts were highly supportive of the measures to introduce policies at the organizational level of schools. There were 5 measures to introduce policies at the school organization level, 2 of which score 5 points, and the other 3 scores were above 4.70 points. This showed that the school's policy guidance and safeguard measures were very important.

In terms of improving the teaching and academic concepts of higher vocational teachers, measures 1 "Organizing teacher training" can help teachers understand the latest teaching concepts, education policies and teaching methods.

In the process of receiving training, teachers can update their teaching concepts, understand the latest educational teaching research results, and apply them to practical teaching. Measure 2, "Provide academic resource support", provides necessary academic resource support for teachers, such as academic journals, libraries, etc., which can stimulate teachers' interest in academic research, encourage them to actively participate in scientific research projects and academic exchange activities, and improve teachers' academic level and teaching ability. Through measure 3 "Establishment of teaching tutor system", teachers with rich experience and high teaching level are selected as teaching tutors to guide and help new teachers. Through communication and interaction with mentors, new teachers can understand the problems and challenges in teaching and gain approaches and strategies to solve them. At the same time, tutors can also impart teaching experience and educational ideas, and guide new teachers to form correct teaching concepts. This can help the new teachers better adapt to the teaching work and improve the teaching effect. Adopt Measure 4 "Encourage teachers to participate in professional development": Schools can encourage teachers to actively participate in education and teaching research projects, write education and teaching papers, and participate in academic conferences and seminars. By participating in professional development activities, teachers can communicate and share with their peers, learn about other teachers' teaching experience and educational ideas, broaden their horizons, and improve their academic level and teaching ability. This can promote the personal growth and professional development of teachers, thereby improving the overall quality and level of teaching.

In terms of improving professional knowledge and ability, measures 1 "continuing education" can help teachers improve professional quality and ability, increase teachers' understanding of educational problems and application ability of solutions, so as to better carry out education and teaching work, to help teachers understand the latest educational trends and research results is helpful for teachers to update knowledge structure, broaden their thinking, and improve teaching quality and effect. Through measure 2 "Subject Research and Teaching Research", it is helpful for teachers to deeply understand the latest development trend of the

subject they teach, grasp the core concepts and basic principles of the subject, and guide students to learn more pertinently. Teaching research can help teachers to explore effective teaching methods and strategies, improve classroom teaching results, meet students' learning needs, and increase students' learning motivation. The results of discipline research and teaching research can be fed back into practical teaching and improve the professional level of teachers and the quality of education and teaching. Through measure 3 "Establishing a performance appraisal mechanism", the professional knowledge and ability of teachers can be taken as an important indicator, which helps to motivate teachers to improve their professional quality and ability, so as to improve the teaching quality and effect. It can promote teachers to take the initiative to learn and further improve their professional level and form a healthy competitive atmosphere and sustainable development motivation. The results of performance appraisal can be used as an important basis for teacher promotion, reward and punishment and title evaluation, and have an important impact on the personal career development of teachers. Measure 4 "Establishment of professional development archives" can comprehensively record teachers' teaching experience, training participation, scientific research achievements and other information, provide reference and guidance for teachers' personal development, and help teachers form a systematic and complete development track. It can be used to evaluate teachers' professional growth and ability improvement and provide basis and evidence for teachers' professional title evaluation, promotion and post adjustment. Teachers' professional resources can be better managed and utilized, and teachers' professional growth and discipline construction can be promoted. Through measure 5 "Establishment of evaluation and feedback training mechanism", evaluation and feedback can help teachers understand their shortcomings, timely adjust and improve learning plans and objectives, and improve learning effects and professional abilities. Through assessment and feedback, teachers can obtain supplementary training of professional knowledge and competence and carry out targeted education and teaching improvement to enhance teaching quality and effectiveness. The establishment of evaluation and feedback training mechanism can form a virtuous circle and

continuously promote the professional growth and ability improvement of teachers.

In terms of enhancing communication and cooperation, measures 1 "Establishing a special communication platform" can break the restrictions of geography and space, so that teachers can communicate and cooperate easily. Through online platforms or communities, teachers can share their experiences and resources anytime, anywhere, and get advice and help from other teachers to improve their teaching. Through measure 2 "Organization of professional training and seminars", vocational teachers can constantly update their teaching concepts and methods and understand the latest development of the industry. Regular professional training and academic seminars can provide opportunities for teachers to learn and exchange, invite outstanding vocational teachers and experts at home and abroad to share their successful experience and research results, and promote exchanges and cooperation among teachers. Through measure 3 "Implementing two-way exchange Program", exchange programs between vocational teachers and schools can let teachers personally experience the teaching environment and teaching methods of other schools and learn from the excellent experience of other schools. Through exchanges with other schools, teachers can broaden their horizons, find, and solve problems in their own teaching, and improve their teaching level. Through measure 5 "Encouraging cooperative teaching and teaching and research activities", cooperation and exchange among teachers can be promoted. Teachers can prepare lessons together, design teaching plans, observe and evaluate classroom teaching, learn from each other, and improve teaching effect. At the same time, teachers' participation in teaching and research activities can also promote the combination of theory and practice and promote the innovation and development of education and teaching. Through measure 5 "Providing reward mechanism", the establishment of reward mechanism can encourage teachers to actively participate in exchange and cooperation activities. By giving honorary titles, promotion titles, bonuses and other incentive measures, teachers can be encouraged to participate in exchanges and cooperation more actively and improve their participation and enthusiasm. This can form a good competitive atmosphere and promote teachers to continuously improve their teaching level and professional ability.

In terms of improving reflection and inquiry ability, through measure 1 "Providing professional training and guidance", professional training and guidance for higher vocational teachers are organized to cultivate their reflection and inquiry ability. The training content can include how to conduct classroom reflection, how to ask questions and how to solve problems. At the same time, the school can send dedicated teaching and research teams or consultants to each school to provide real-time guidance and support. Through measure 2 "Establishing a mechanism of reflection and inquiry", schools can establish a regular mechanism of reflection and inquiry, requiring higher vocational teachers to conduct classroom reflection and summary of teaching experience after teaching. At the same time, teachers can also be asked to submit regular teaching research reports to share teaching practice and innovation experience. Through measure 3 "Encourage cooperative exploration activities", organize cooperative exploration activities among higher vocational teachers. Teachers are encouraged to apply for teaching research projects to carry out in-depth research on their own teaching problems. Through measure 4 "Provide feedback and evaluation mechanism", establish an effective feedback and evaluation mechanism, conduct regular teaching evaluation for teachers, and give specific feedback opinions. Organize regular evaluation activities among teachers to promote each other's learning and growth. Through measure 5 "Establishing professional learning community", an online professional learning community is created for vocational teachers to communicate and share. This community can provide resources sharing, teaching experience exchange, problem discussion and other functions.

In terms of improving innovation application ability, the establishment of teachers' innovation application platform through measure 1 "Creating innovation application platform" can provide vocational teachers with an opportunity to display and share their own innovative teaching achievements. This can stimulate teachers' innovative consciousness and enthusiasm, but also promote mutual learning and reference between teachers, and improve the overall teaching level. Through Measure 2 "Provision of professional training and guidance", teachers can be informed of the latest teaching methods and the application of technology, and guidance and

support can be provided to help teachers better apply innovative teaching methods in practice. Through measure 3 "Encouraging interdisciplinary cooperation", by promoting interdisciplinary cooperation between higher vocational teachers and teachers of other disciplines, they can stimulate their innovative thinking and develop new teaching ideas and methods. Through measure 4 "Providing project-driven learning opportunities", students' practical ability and innovative consciousness can be cultivated. Vocational teachers, as mentors and instructors of students, can cultivate students' innovative application ability by designing and guiding students to carry out project-driven learning. At the same time, vocational teachers can also explore and improve their own teaching methods and strategies by participating in project activities. Through measure 5 "Supporting teachers' research and innovative practice", vocational teachers are encouraged to actively participate in educational research and innovative practice, and scientific research funds, research platforms and related resources are provided to promote teachers' in-depth research and innovative attempts in teaching practice, so as to promote the sustainable development and improvement of education and teaching.

In terms of improving the quality and ability of dual teachers, through measure 1 "Strengthening industry exchanges", teachers can conduct in-depth exchanges and cooperation with professionals in the field of engineering and understand the latest developments in engineering technology. This can help teachers update their teaching content and methods and improve their professional quality and teaching level in the field of engineering. Through measure 2 "Combination of practical teaching", practical teaching can combine theoretical knowledge with practical engineering projects to help teachers improve their practical operation ability and engineering design level. Through hands-on participation in practical projects, teachers can better understand the requirements and challenges of engineering practice, apply these practical experiences to teaching, and improve students' practical ability. Through measure 3 "combination of industry, university and research", establishing a good cooperation mechanism with enterprises, teachers can have the opportunity to deeply communicate and cooperate with enterprise engineers, and understand the needs and implementation

process of actual engineering projects. This can help teachers constantly update practical experience and technical knowledge, improve their understanding of engineering practice and guidance ability. Through measure 4 "Building a practice platform", vocational teachers are provided with opportunities to participate in practical engineering projects or enterprise practices, so that they can personally experience the engineering practice process and have a deep understanding of the requirements and challenges of practical engineering projects. By applying these experiences to teaching, teachers can improve their understanding and application of engineering knowledge and improve teaching quality. Through measure 5 "Establishment of practice base", the establishment of practice base or laboratory in cooperation with enterprises can provide a place for students and teachers to conduct engineering practice and research. This can strengthen the combination of theory and practice, cultivate students' engineering practice ability in practical projects, and enhance teachers' ability to guide engineering practice. Through measure 6 "Formulating evaluation mechanism" and establishing scientific evaluation mechanism, the quality and ability of teachers "engineers + teachers" can be evaluated. Assessment can help teachers understand their own expertise and teaching level in the field of engineering, but also can find the shortcomings. According to the evaluation results, targeted training plans can be formulated to help teachers further improve their quality and ability and promote their development in engineering education.

Recommendations

Implication

The research results showed that the recommendations about guidelines for improving the teaching academic ability of teachers in higher vocational colleges in Guangxi. The requirements for each department in the Guidelines are as follows:

All higher vocational colleges should do a good job of top-level design, attach importance to teaching academic value, and create a teaching academic atmosphere, formulate the corresponding teaching and academic incentive system to stimulate the enthusiasm of teachers to participate in teaching and academic.

General human resources should improve the teacher evaluation system and establish a diversified teaching quality system suitable for teaching and academic study, establish the standard system of "double-qualified" teachers, Develop training system and teacher development files.

Publicity Department should pay attention to exploring and promoting the deeds of advanced teachers with typical teaching and academic ability, change the traditional academic concepts of teachers, and strengthen the academic awareness of teaching.

The teaching administration department should design projects to promote teachers' academic ability in teaching, establish a fair, just, reasonable and transparent teaching and academic evaluation mechanism, build a teaching and academic platform, and support the creation of more opportunities for teaching and academic exchange.

Higher vocational teachers should know how to change the traditional academic concepts, strengthen school-enterprise cooperation to improve professional level, devote oneself to teaching practice and deepen teaching reflection, establish the concept of sharing and actively participate in exchanges, combine the position, seek innovation, deepen the integration of production and education, and improve practical ability.

Future Research

Under the background of the vigorous development of higher vocational education, the improvement of teachers' teaching ability and teaching academic ability has become an important practical need. Therefore, the exploration of teaching academic ability of college teachers will become a research field with important practical value and theoretical significance.

Objective 1 of this study is to study the current situation of teaching academic ability of higher vocational teachers in Guangxi. Therefore, questionnaires and in-depth interviews were conducted on higher vocational teachers during the research process. As the carrier of teaching academic ability, research on teachers is the most important path of current teaching academic research, which is the primary

object and fundamental problem of the research. However, teachers are still far from being the interview objects. The next step will be to conduct further research and interview their students, close colleagues, unit leaders, teaching administrators, supervision experts who often listen to and evaluate lessons, and even family members, so as to achieve more multi-dimensional evidence support and make the research fuller. At the same time, on the existing basis, a more detailed comparative study of teachers by their majors and schools will be carried out to obtain a deeper understanding of the differences in teaching and academic ability of teachers in different higher vocational colleges.

Through investigation and expert interviews, this study aims at the problems arising from the investigation and expert analysis and obtains the guidelines for improving the teaching and academic ability of higher vocational teachers. However, there is no in-depth analysis on the influencing factors of the formation of teaching academic ability. What are the modes of action, processes, and internal mechanisms of these factors on the formation of teachers' teaching academic ability, and what specific influencing mechanisms have been formed, etc. These probes into the formation mechanism of higher vocational teachers' teaching academic ability will be the next research content.

How to evaluate the teaching academic ability of higher vocational teachers and how to promote their ability through evaluation is also an important research issue. The evaluation index of teaching academic ability of college teachers has been explored, but the evaluation of teaching academic ability of higher vocational teachers is still blank at present. In the current and future practice of education and teaching reform, it is particularly necessary to take root in the teaching practice of higher vocational teachers, give comprehensive attention to the needs of multiple subjects centered on students, focus on the major changes brought by the information technology revolution to the education ecology, and especially closely combine with the current reform process of education evaluation in China. To form a systematic study in response to the "Overall Plan for deepening the reform of Educational Evaluation in the New Era". Therefore, the research on the evaluation of higher vocational teachers' teaching academic ability, which emphasizes practical

application, attaches importance to concrete operation, embodies standardized management and contains development orientation, will become an important topic to be broken through in the future.

In short, there are still many unknown spaces worth exploring in the research field of teaching academic ability, and there are many questions of great practical value waiting to be answered. The research progress in this field can provide important theoretical support for the improvement of higher vocational teaching quality and the development of higher vocational teachers, so it is worth investing efforts and continuing to tackle hard problems.

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Appendixes

Appendix A
List of Specialists and Letters of Specialists Invitation
for IOC Verification

List of Specialists for IOC Verification

name	Personal background
Li Jihong	Workplace: Guangxi Vocational and Technical College Position: Director of the Academic Affairs Office Professional title: Professor Education: Master's degree Work experience: 25 years
Liu Juan	Workplace: Guangxi Performing Arts Vocational and Technical College Position: assistant dean Professional title: Professor Education: Master's degree Work experience: 30 years
Yang Hongyuan	Workplace: Guangxi Industrial Vocational and Technical College Position: Director of the Academic Affairs Office Professional title: Professor Education: Master's degree Work experience: 28 years



Ref. No. 0643.14/970

Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request letter for instrument validation

Dear Professor Yang Hongyuan, Guangxi Industrial Vocational and Technical College

Attachment 1 questionnaire

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

- | | |
|--|------------|
| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

In this research, the researcher requires to check the content validity of the instrument to get the most complete research instrument. Knowing your experience in the field of the said research, the researcher would like to ask for your assistance in validating the said instrument. Your suggestions will be useful for improving the quality and suitability of research instruments for use in collecting data for this research.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建

Ref. No. 0643.14/0117



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request letter for instrument validation

Dear Professor Li Jihong, Guangxi Vocational and Technical College

Attachment 1 questionnaire

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

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| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

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Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建

Ref. No. 0643.14/911



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request letter for instrument validation

Dear Professor Liu Juan, Guangxi Performing Arts Vocational and Technical College

Attachment 1 questionnaire

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

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| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

In this research, the researcher requires to check the content validity of the instrument to get the most complete research instrument. Knowing your experience in the field of the said research, the researcher would like to ask for your assistance in validating the said instrument. Your suggestions will be useful for improving the quality and suitability of research instruments for use in collecting data for this research.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建

Appendix B
Official Letter

Ref. No. 0643.14/ 970



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

๓ August 2023

Subject Request for data collection

Dear President of Guangxi Vocational Technical College of Logistics Engineering

Attachment 1. Questionnaires
2. Structured interview

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

- | | |
|--|------------|
| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

In this research, the researcher requires to collect data for the said research. Therefore, the researcher requested to collect the data to be used in the research.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000
Fax. (662) 4737000



扫描全能王 创建

Ref. No. 0643.14/ 974



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request for data collection

Dear President of Guangxi Performing Arts Vocational and Technical College

Attachment 1. Questionnaires

2. Structured interview

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

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| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

In this research, the researcher requires to collect data for the said research. Therefore, the researcher requested to collect the data to be used in the research.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建

Ref. No. 0643.14/ 975



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request for data collection

Dear President of Guangxi Industrial Vocational and Technical College

Attachment 1. Questionnaires
2. Structured interview

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

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| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

In this research, the researcher requires to collect data for the said research. Therefore, the researcher requested to collect the data to be used in the research.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)
Dean of Graduate school
Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建

Ref. No. 0643.14/913



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request for data collection

Dear President of Guangxi Vocational and Technical College

Attachment 1. Questionnaires

2. Structured interview

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

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| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

In this research, the researcher requires to collect data for the said research. Therefore, the researcher requested to collect the data to be used in the research.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建

Ref. No. 0643.14/ 970



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request for evaluation of guidelines

Dear Professor Dr. Wei Dayu, Guangxi Vocational and Technical College

Attachment Evaluation sheets

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

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| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

The guideline for improving teaching academic ability will be developed in this research. Knowing your experience in the field of the said research, the researcher would like to ask for your assistance in evaluating the guideline. The researcher is glad to hear your suggestions for the improvement of the guideline for improving teaching academic ability. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建

Ref. No. 0643.14/ 971



Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request for evaluation of guidelines

Dear Professor Pan Dengbin, Guangxi Performing Arts Vocational and Technical College

Attachment Evaluation sheets

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

- | | |
|--|------------|
| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

The guideline for improving teaching academic ability will be developed in this research. Knowing your experience in the field of the said research, the researcher would like to ask for your assistance in evaluating the guideline. The researcher is glad to hear your suggestions for the improvement of the guideline for improving teaching academic ability. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

Tel. (662) 4737000

Fax. (662) 4737000



扫描全能王 创建



Ref. No. 0643.14/ 912

Bansomdejchaopraya Rajabhat University
1061 Itsarapap 15 Itsarapap Rd.
Thonburi Bangkok 10600

31 August 2023

Subject Request for evaluation of guidelines

Dear Professor Yang Hongyuan, Guangxi Industrial Vocational and Technical College

Attachment Evaluation sheets

Regarding Mrs. He Feiyan with student code 6373104134, a doctoral student majoring in the Educational Administration program at Bansomdejchaopraya Rajabhat University. The thesis is entitled "Guideline for improving teaching academic ability of higher vocational colleges in Guangxi". The thesis committee is as follows:

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| 1. Assistant Professor Dr. Pinyapat Pargudtong | Advisor |
| 2. Assistant Professor Dr. Sarayuth Sethakhajorn | Co-advisor |
| 3. Associate Professor Dr. Niran Sutheeniran | Co-advisor |

The guideline for improving teaching academic ability will be developed in this research. Knowing your experience in the field of the said research, the researcher would like to ask for your assistance in evaluating the guideline. The researcher is glad to hear your suggestions for the improvement of the guideline for improving teaching academic ability. Your positive response is highly appreciated.

Sincerely,

(Assistant Professor Dr. Kanakorn Sawangcharoen)

Dean of Graduate school

Bansomdejchaopraya Rajabhat University

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扫描全能王 创建

Appendix C
Research Instrument

Questionnaire

Research Title: Guidelines For Improving Teaching Academic Ability Of teachers' in Higher Vocational Colleges In Guangxi

Explanation

1. This questionnaire is about guidelines for Improving teaching academic ability of teachers' in higher vocational colleges In Guangxi. The objectives of this research were to study the current situation of teaching academic ability of teachers' in higher vocational colleges In Guangxi, to provide the guidelines for improving the Teaching academic ability of teachers' in higher vocational colleges In Guangxi, and to evaluate the feasibility of guidelines for improving teaching academic ability of teachers' in higher vocational colleges In Guangxi.

2. The questionnaire about guidelines for improving the teaching academic ability of teachers' in higher vocational colleges In Guangxi, which provided into two parts. Part one is personal information of respondents and part two is survey about the current situation of teaching academic ability of teachers' in higher vocational colleges In Guangxi , total 19 questions.

3. Please tick \checkmark in the columns that represent your opinion about the teaching academic ability of teachers' in higher vocational colleges In Guangxi.

Thank you

Miss He Feiyan

A doctoral student in Educational administration program

Bansomdejchaopraya Rajabhat University

Part 1: Basic information

1. Your gender is:

man female

2. Your age is:

25-30 years old 30-40 years old

40-50 years old over 50 years old

3. Your Education is :

Doctor Master

Bachelor Others

4. Your Teaching years:

within 5 years 5-10 years

10-15 years 15-20 years

More than 20 years

5. Your academic title:

Teaching assistant Lecturer

Associate professor Professor

Part 2: Survey about the current situation of teaching academic ability of teachers' in higher vocational colleges In Guangxi

5 express the level of teaching academic ability of teachers' in higher vocational colleges In Guangxi were at strongly high level

4 express the level of teaching academic ability of teachers' in higher vocational colleges In Guangxi were at high level

3 express the level of teaching academic ability of teachers' in higher vocational colleges In Guangxi were at medium level

2 express the level of teaching academic ability of teachers' in higher vocational colleges In Guangxi were at low level

1 express the level of teaching academic ability of teachers' in higher vocational colleges In Guangxi were at strongly low level.

No.	Guidelines for improving teaching academic ability of teachers' in higher vocational colleges In Guangxi	Rating				
		5	4	3	2	1
Teaching academic concept						
1	I can establish the concept of people-oriented and all-round development in teaching					
2	I put students at the center of my teaching					
3	I look at teaching from the perspective of learning.					
4	I establish a comprehensive and open academic view					
5	I establish a comprehensive and open academic view					
6	I realize that teaching in higher vocational colleges is characterized by highlighting practicality.					
7	I recognize and recognize teaching academic concepts					
8	I have an open mind and innovative thinking.					
9	I improve my teaching effect by studying teaching					
Professional knowledge ability						
1	I have a basic grasp of the professional theoretical knowledge and application knowledge of this subject					
2	I have dabbled in new knowledge, new technology, new technology, and new methods in the frontier of the professional field.					
3	I basically master the main pedagogical knowledge, including basic pedagogical theories, teaching methods, student psychology and cutting-edge education and teaching ideas.					
4	I have formed subject teaching knowledge that not only conforms to the learning characteristics of students but also has personal characteristics.					
5	I constantly improves and develops it in teaching practice.					
6	I have solid professional practical knowledge.					

No.	Guidelines for improving teaching academic ability of teachers' in higher vocational colleges In Guangxi	Rating				
		5	4	3	2	1
7	I can choose, delete and add the course content according to the characteristics of learning situation and class situation					
8	I can adjust my teaching methods according to students' learning status					
Communication activity ability						
1	I participate in public classes among teachers and peers					
2	I am willing to disclose my teaching process and share my teaching results					
3	I discuss teaching and learning by listening to each other and evaluating classes.					
4	I participate in public classes among teachers and peers.					
5	I discuss teaching and learning by listening to each other and evaluating classes.					
6	I actively listen to students' opinions about teaching					
7	I participate in regional, national or even international teaching or exchange of results					
8	I participate in an organized teaching community with a fixed frequency of exchanges and in-depth content.					
9	I participate in formal forms of communication, such as seminar reports, conference presentations, writing results reports and publishing journal papers, etc.					
10	I participate in informal forms of communication such as lectures and chats between teachers, as well as communication with the help of modern and advanced information technology, such as Weibo, WeChat, QQ groups, etc.					

No.	Guidelines for improving teaching academic ability of teachers' in higher vocational colleges In Guangxi	Rating				
		5	4	3	2	1
Reflection and inquiry ability						
1	I have reflections on curriculum design (lesson preparation process)					
2	I reflections on teaching content and teaching methods (teaching process)					
3	I have discovered in teaching practice problems and solve them					
4	I have improved the content of reflection from simple self-reflection to generating effective and valuable research results, including various forms of teaching results and teaching academic results.					
5	On the basis of teaching reflection, write relevant teaching articles					
6	Be good at using the successful experience of others in teaching activities					
7	I formed a good habit of reflecting on my teaching every day					
8	I often reflect and explore with my peers on a certain problem in teaching.					
Innovation and application ability						
1	I constantly absorb and understand new concepts, update and develop old educational concepts, combine the needs of the times					
2	I innovate my own teaching methods and evaluation methods.					
3	.I can innovate teaching methods according to the characteristics of students and courses					
4	I invented many patents according to the needs of teaching					
5	I have a strong innovative thinking					
6	I actively participate in various innovation competitions					

No.	Guidelines for improving teaching academic ability of teachers' in higher vocational colleges In Guangxi	Rating				
		5	4	3	2	1
7	I consider innovative teaching tools and teaching methods in my teaching practice					
8	I can keep up with The Times, master new technologies, and apply them to my teaching.					
The qualities of both engineering and teaching.						
1	I actively participate in social practice in enterprises					
2	I have a teacher qualification certificate and a vocational skills qualification certificate at the same time.					
3	I have high theoretical knowledge and teaching level, and have strong professional practical ability and rich practical experience.					
4	I think higher vocational teachers should have the quality of dual teachers					
5	I think the higher the proportion of teachers with dual quality, the higher the level of school running.					
6	I think the quality of dual teachers should be linked to the titles and awards of schools.					
7	I often participate in technician, senior technician and other aspects of training and certification.					
8	I clearly define my development orientation and have the life goal of becoming a "craftsman's teacher".					
9	I apply the results of technological research and development and apply them to teaching.					
10	I took part in a vocational skills contest and won a prize					

Structured Interview

Guidelines for improving teaching academic ability of teachers' in higher vocational colleges In Guangxi.

This questionnaire is divided into two parts:

Part 1 : Personal Information

Part 2 : The current situation of teaching academic ability of teachers' in higher vocational colleges In Guangxi.

Part 1: Personal Information

Interviewer _____ Interview Date_____ Interview Time_____

Interviewee_____ Gender_____ Age_____ years old

Education background_____ Position_____

Work place_____

Part 2 : The current situation of teaching academic ability of teachers' in higher vocational colleges In Guangxi.

Instruction: Please provide your opinion on the following statement

1. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

2. What is the current situation of the teaching academic concept of teachers in higher vocational colleges in Guangxi? How to promote the teaching academic concept of teachers in higher vocational colleges?

3. What is the current situation of the communication activity ability of teachers in higher vocational colleges in Guangxi ? How to promote the communication activity ability of teachers in higher vocational colleges ?

4. What is the current situation of reflection and inquiry ability of teachers in higher vocational colleges in Guangxi? How to promote the reflection and inquiry ability of teachers in higher vocational colleges?

5. What is the current situation of the Innovation and application ability of teachers in higher vocational colleges in Guangxi? How to promote the innovation and application ability of teachers in higher vocational colleges?

6. What is the current situation of the qualities of both engineering and teaching of teachers in higher vocational colleges in Guangxi ? How to promote the qualities of both engineering and teaching of teachers in higher vocational colleges ?

Appendix D
The Results of the Quality Analysis of
Research Instruments

The index of objective congruence (IOC)

Guidelines for improving the teaching academic ability of teachers' in higher vocational colleges In Guangxi.

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
Strengthening teaching academic concept						
1	Organize teacher training: The school organizes professional training courses, seminars and lectures to help teachers update their teaching concepts and improve their professional skills.	11	11	11	11	valid
2	Provide academic resource support: Schools can establish academic research bases or teaching and research departments for teachers, provide academic journals, libraries and other resources for teachers, encourage teachers to actively participate in scientific research projects and academic exchange activities, and cultivate teachers' academic research interests and abilities.	11	21	11	11	valid
3	Establish a teaching mentor system: The school may establish a teaching mentor system, with experienced and high-level teachers as mentors to guide and help new teachers, impart teaching experience and educational concepts, and guide them to form correct teaching concepts.	1	1	1	1	valid
4	.Encourage teachers to participate in professional development: The school encourages teachers to actively participate in education and teaching research projects, write education and teaching papers, and participate in academic conferences and seminars.	1	1	1	1	valid

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
Improving professional knowledge						
1	.Continuing education training: Organize and carry out various professional training, including learning new educational concepts, teaching methods and educational technology knowledge.	1	1	1	1	valid
2	Discipline research and teaching research: vocational teachers are encouraged to participate in discipline research and teaching research, and strengthen research and understanding of industry development trends.Scientific research projects, educational reform projects and practice bases can be established to provide platform and resource support.	1	1	1	1	valid
3	Develop a performance appraisal mechanism: Establish a scientific and fair performance appraisal mechanism, and take teachers' professional knowledge and ability as one of the important evaluation indicators. Through the examination and incentive, the higher vocational teachers are encouraged to improve their own professional knowledge and ability.	1	1	1	1	valid
4	Establish professional development files: Establish professional development files of higher vocational teachers, record their teaching experience, training participation, scientific research results and other information, and provide guidance and support for their personal development.	1	1	1	1	valid

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
5	Establish assessment and feedback training mechanisms to enable teachers to adjust and improve their own learning plans and objectives.	1	1	1	1	valid
Improving Communication activity ability						
1	Establish a special communication platform: Build a special online platform or community for vocational teachers to communicate and cooperate. This platform can include forums, blogs, online courses, resource sharing and other functions, so that teachers can exchange experiences, share teaching resources, and discuss teaching methods.	1	1	1	1	valid
2	.Organize professional training and seminars: Regularly organize professional training and academic seminars, inviting domestic and foreign excellent vocational teachers and experts to share their experience and research results.	1	1	1	1	valid
3	Implement two-way exchange programs: carry out exchange programs between vocational teachers and between schools. Through these projects, teachers can personally experience the teaching environment and teaching methods of other schools, learn from the excellent experience of other schools, and improve their own teaching level.	1	1	1	1	valid
4	Encourage cooperative teaching and teaching research activities: Organize cooperative teaching activities among teachers to create an atmosphere of cooperation and sharing. At the	1	1	1	1	valid

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
	same time, teachers are encouraged to participate in teaching and research activities to promote cooperation and exchange among teachers.					
5	.Provide a reward mechanism: Establish a corresponding reward mechanism to encourage teachers to actively participate in exchange and cooperation activities. For teachers who have achieved excellent results in exchanges and cooperation, incentive measures such as honorary titles, promotion titles and bonuses can be given to improve teachers' participation and enthusiasm.	1	1	1	1	valid
Improving reflection and inquiry ability						
1	Provide professional training and guidance: Organize professional training and guidance for higher vocational teachers to cultivate their ability of reflection and inquiry. The training content can include how to conduct classroom reflection, how to ask questions and how to solve problems. At the same time, the school can send dedicated teaching and research teams or consultants to each school to provide real-time guidance and support..	1	1	1	1	valid
2	Establish a reflection and inquiry mechanism: schools can establish a regular reflection and inquiry mechanism, requiring vocational teachers to conduct classroom reflection and teaching experience summary after the end of teaching. At the same time, teachers can also be asked to	1	1	1	1	valid

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
	submit regular teaching research reports to share teaching practice and innovation experience.					
3	Encourage cooperative exploration activities: Organize cooperative exploration activities among higher vocational teachers. Teachers are encouraged to apply for teaching research projects to carry out in-depth research on their own teaching problems.	1	1	1	1	valid
4	Provide feedback and evaluation mechanism: Establish effective feedback and evaluation mechanism, conduct regular teaching evaluation of teachers, and give specific feedback. Organize regular evaluation activities among teachers to promote each other's learning and growth.	1	1	1	1	valid
5	Support teachers' research and innovative practice: Encourage higher vocational teachers to actively participate in educational research and innovative practice, support them to apply for teaching research projects and carry out educational research work. The school provides scientific research funds, research platforms and related resources to encourage teachers to conduct in-depth research and innovative attempts in teaching practice, and promote the continuous development and improvement of education and teaching.	1	1	1	1	valid
Improving Innovation and application ability						

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
1	Creation of innovative application platform: The school establishes an innovative application platform for teachers to provide opportunities for vocational teachers to display and share their innovative teaching results. The platform can include educational technology resource libraries, online communication communities, etc., to encourage teachers to learn from each other. At the same time, the school has set up an innovative application reward mechanism to encourage teachers to actively participate in innovative practice.	1	1	1	1	valid
2	Provide professional training and guidance: The school organizes professional training in innovative teaching methods and application of educational technology to enhance the level of educational technology and innovation consciousness of higher vocational teachers.	1	1	0	0.67	valid
3	Encourage interdisciplinary cooperation: Promote interdisciplinary cooperation among higher vocational teachers and with teachers of other disciplines to stimulate innovative thinking.	1	1	1	1	valid
4	Provide project-driven learning opportunities: organize students to participate in project activities with practical significance, and encourage vocational teachers to design and guide students to carry out project-driven learning.	1	1	1	1	valid

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
5	Support teachers' research and innovative practice: Encourage higher vocational teachers to actively participate in educational research and innovative practice, support them to apply for teaching research projects and carry out educational research work. The school provides scientific research funds, research platforms and related resources to encourage teachers to conduct in-depth research and innovative attempts in teaching practice, and promote the continuous development and improvement of education and teaching.	1	1	1	1	valid
Improving the qualities of both engineering and teaching.						
1	Strengthen the cooperation between school and enterprise, form the normal practice of enterprise practice under teachers, and improve the practical ability of teachers.	1	1	1	1	valid
2	Combination of practical teaching: vocational teachers are encouraged to actively participate in practical projects and practical teaching activities, combine theoretical knowledge with practical engineering projects, and improve practical operation ability and engineering design level.	1	1	1	1	valid
3	Combination of industry, university and research: actively promote the cooperation between schools and enterprises, establish a good cooperation mechanism between industry, university and research, so that teachers have the opportunity to deeply exchange and	1	1	1	1	valid

No.	Research to improve the teaching academic ability of teachers in higher vocational colleges in Guangxi	Experts			IOC	Validity
		NO. 1	NO. 2	NO. 3		
	cooperate with enterprise engineers, and constantly update practical experience and technical knowledge.					
4	Build a practice platform: Provide opportunities for vocational teachers to participate in practical engineering projects or enterprise practices, so that they can personally experience the engineering practice process and apply these experiences into teaching to improve their understanding and application of engineering knowledge.	1	1	1	1	valid
5	Build a practice platform: Provide opportunities for vocational teachers to participate in practical engineering projects or enterprise practices, so that they can personally experience the engineering practice process and apply these experiences into teaching to improve their understanding and application of engineering knowledge.	1	1	1	1	valid
6	Develop an evaluation mechanism: Establish a scientific evaluation mechanism to evaluate the qualities of both engineering and teaching. Formulate targeted training plans according to the evaluation results to help teachers further improve their abilities.	1	1	1	1	valid

Appendix E
Certificate of English



BANSOMDEJCHAOPRAYA
RAJABHAT UNIVERSITY

This is to certify that

Mrs. Feiyan He

Achieved BSRU English Proficiency Test (BSRU-TEP) level

C2

Given on 13th February 2022

(Assistant Professor Dr Kulsirin Aphiratvoradej)

Director

Appendix F
The Document for Acceptance Research

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JCHR

Acceptance Letter

Dear Author(s): **He Feiyan , Pinyapat Pargudtong , Sarayuth Sethakhajorn , Niran Sutheeniran, Patchara Dechhome**

Paper ID	JCHR_22
Paper Title	Guidelines for Improving Teaching Academic Ability of Higher Vocational Colleges in Guangxi

This is to enlighten you that the above manuscript was reviewed and appraised by the review committee members of **IFERP** and it is accepted for the purpose of publication in the “**Journal of Chemical Health Risks (JCHR)**”.

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Note:

1. The above manuscript will be published on or before 30th November 2023.
2. **Journal of Chemical Health Risks (JCHR)** a SCOPUS Indexed Q4 Journal.
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