



**EFFECT OF INQUIRY-BASED TEACHING METHODS ON
PRACTICAL ABILITIES IN REHABILITATION THERAPY
TECHNOLOGY AMONG VOCATIONAL COLLEGE STUDENTS
IN YUNNAN**



RUNLI TIAN

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN EDUCATION AND SOCIETY
INSTITUTE OF SCIENCE INNOVATION AND CULTURE
RAJAMANGALA UNIVERSITY OF TECHNOLOGY KRUNGTHEP
ACADEMIC YEAR 2024
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Author Runli TIAN

Major Master of Arts (Education and Society)

Advisor Assistant Professor Dr. Saifon Songsiengchai

THESIS COMMITTEE

.....Chairperson
(Assistant Professor Dr. Chalernsup Karanjakwut)

.....Advisor
(Assistant Professor Dr. Saifon Songsiengchai)

..... Committee
(Assistant Professor Dr. Premeesree Chaumthong)

Approved by the Institute of Science Innovation and Culture
Rajamangala University of Technology Krungthep in Partial Fulfillment
of the Requirements for the Master's Degree

.....
(Assistant Professor Dr. Yaoping LIU)
Director of the Institute of Science Innovation and Culture
Date.....Month.....Year.....

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Academic

Year 2024

ABSTRACT

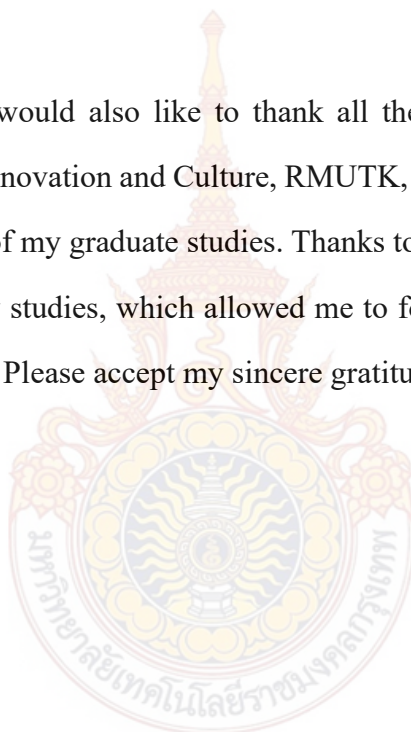
This research aims to explore the impact of inquiry-based teaching methods on the practical abilities of students majoring in rehabilitation therapy technology, and the research population covers the 2023 freshmen majoring in rehabilitation therapy technology at Yunnan College of Economics and Trade and Foreign Affairs Vocational College. Simple random sampling was used in this research. This research aims to achieve three objectives: (1) To investigate the differences between inquiry-based and traditional teaching methods in enhancing students' practical abilities. (2) To research how inquiry-based teaching methods enhance students' practical abilities. (3) To explore the students' satisfaction with inquiry-based and traditional teaching methods in enhancing students' practical abilities. Research tools included lesson plans, questionnaires, tests, and perspective surveys, with data analyzed using the mean (M), standard deviation (S.D.), and t-test. The findings were as follows: (1) For the experimental group, $M=4.31$, $S.D.=0.83$, showing that the inquiry-based teaching method can significantly improve students' practical skills, (2) For the experimental group, $M=83.20$, $S.D.=9.89$, by creating situations, open classrooms, cooperative inquiry, and practical application. The final grade of the experimental group was significantly better than that of the control group. (3) For the experimental group $M=4.30$, $S.D.=0.87$, Shows higher student satisfaction with inquiry-based teaching methods. The inquiry-based teaching method can significantly improve the practical skills and comprehensive quality of rehabilitation therapy technology students, stimulate their interest in learning, and enhance teaching effectiveness.

Keywords: Inquiry-based Teaching Methods, Rehabilitation Therapy Technology, Practical Abilities

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Runli TIAN

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CHAPTER I

INTRODUCTION

1.1 Background and Statement of the Problems

With the increasing demand for rehabilitation therapy, cultivating professionals in this field is critical. The core of the teaching of rehabilitation therapy technology is "competence-based, which requires clinical practical teaching centered on improving students' operational skills. As a student-centered teaching method, inquiry-based teaching emphasizes the acquisition of knowledge through students' active exploration and discovery, guiding them to solve problems by conducting inquiry activities related to the issue at hand (Dewey, 1990; Liu, 2007). It pays more attention to the process and method of learning than to the content. In this mode of teaching, the teacher's role is more that of a guide and facilitator than a mere transmitter of knowledge (Liu, 2007; Wang & Lu, 2013a). Teachers, in the teaching process, play the positive role of inquiry-based teaching, stimulate students to participate in classroom inquiry actively, actively play the student's subjective consciousness, guide students in the inquiry activities to actively complete the whole process of teaching and learning, full and effective communication, to create a highly effective teaching practical classroom, so that students can get a good learning experience, improve the sense of access to student learning courses. At the same time, inquiry-based teaching methods help to cultivate students' independent learning ability, cooperation, and communication abilities through creating situations, open classrooms, cooperative inquiry, practical application, etc. (Wang & Lu, 2013a), so that students can find and solve problems through inquiry learning in teaching activities and improve their problem-solving ability as well as vocational practical ability. The purpose of this research is to investigate how inquiry-based teaching methods affect the practical abilities of rehabilitation therapy

technology students, specifically their ability to apply their knowledge, skills, and attitudes in real-world rehabilitation therapy settings (Wang, 2005a; Wang, 2005b; Bai, 2004; Chen & Liu, 2011).

1.2 Research Questions

This research focuses on the following issues:

Q1: Is there a statistically significant difference between inquiry-based teaching methods and traditional teaching methods in enhancing students' practical abilities?

Q2: How do inquiry-based teaching methods enhance students' practical abilities in rehabilitation therapy technology?

Q3: What are students' perceptions of inquiry-based teaching methods in improving their practical abilities?

1.3 Research Objectives

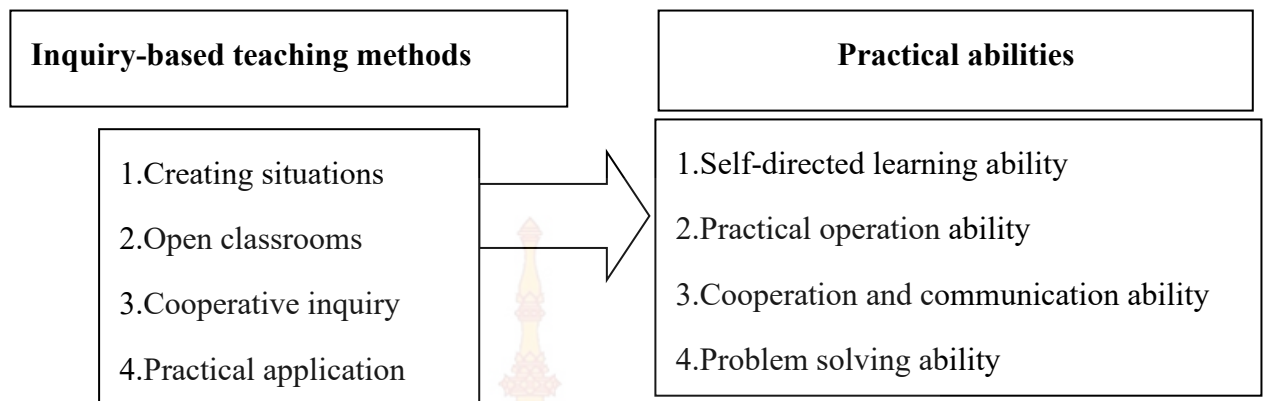
1. To investigate the differences between inquiry-based teaching methods and traditional teaching methods in enhancing students' practical abilities.

2. To research how inquiry-based teaching methods enhance students' practical abilities.

3. To explore the students' satisfaction with inquiry-based teaching methods in enhancing students' practical abilities.

1.4 Research Framework

Based on the above analysis, this research can draw the following conceptual model:



1.5 Research Hypotheses

After searching relevant literature and theoretical analysis, this research puts forward the following research hypotheses:

H1: Inquiry-based teaching methods can significantly improve the practical abilities of rehabilitation therapy technology students.

H2: Inquiry-based teaching methods improve students' practical abilities by creating situations, open classrooms, and opportunities for cooperative inquiry, and by promoting practical application.

H3: Students are more satisfied with inquiry-based teaching methods in improving their practical abilities.

1.6 Research Scope and Limitations

1.6.1 Research Scope

The purpose of this research is to investigate the impact of inquiry-based

teaching methods on students' practical skills in rehabilitation therapy technology and to conduct an experimental study on interventions using the Rehabilitation Functional Assessment as an example. The subjects of the research were 100 first-year students of rehabilitation therapy technology at Yunnan College of Economics and Trade and Foreign Affairs Vocational College, comprising 50 in the control group and 50 in the experimental group.

Research content:

Setting of control and experimental groups: 100 college freshmen who participated in the study were randomly assigned to a control and an experimental group, with 50 participants in each group. The control group received traditional teaching methods, while the experimental group received an intervention incorporating inquiry-based teaching methods, using "Rehabilitation Functional Assessment" as an example.

Intervention design: For the students in the experimental group, an inquiry-based teaching methods program was developed, incorporating elements such as creating situational learning, open classrooms, cooperative inquiry, and the practical application of a four-step approach. These steps were designed to stimulate students' initiative and improve their practical abilities.

Data collection and analysis: During the experiment, data on students' practical abilities in the control and experimental groups were collected and analyzed using statistical methods to compare the two groups' practical abilities.

Evaluation and Summary of Results: Based on the analysis, the effectiveness and implementation outcomes were evaluated. This research summarizes the results and provides suggestions and recommendations for improving teaching methods and developing practical abilities in rehabilitation therapy technology at Yunnan College of Economics, Trade, and Foreign Affairs Vocational College.

The aim is to provide empirical evidence, a basis, and effective strategies for the application of inquiry-based teaching methods in rehabilitation therapy

technology at Yunnaat Vocational College of Economics and Trade and Foreign Affairs, and to promote improvements in its PIN.

1.6.2 Research Limitations

A significant limitation of this research is the potential for sample bias, which may impact the generalizability of the findings. The sample size in the research is relatively small, and participant selection is constrained, which may result in inadequate representation of the broader population. For instance, participant recruitment may be restricted to specific geographical areas or institutions, limiting the diversity of the sample.

Although measures have been taken, such as random sampling during recruitment, to ensure the sample's representativeness, the voluntary nature of participant involvement introduces potential biases. Therefore, when interpreting the research results, it is crucial to consider these limitations with caution and acknowledge that sample bias may affect the generalizability of the conclusions.

1.7 Definition of Key Terms

1.7.1 Inquiry-Based Teaching Methods

Inquiry-based teaching methods, is in the teacher's inspiration and guidance, to students' independent learning and cooperative discussion as a prerequisite, to the current textbooks for the basic content of the investigation, to the world around students and life as a reference object, to provide students with complete freedom of expression, questioning, inquiry, discussion of the issue of the opportunity, so that students through individual, group, collective and other kinds of attempts to solve the problem of trying to solve the problem of the application of their knowledge to solve the actual problem of a form of teaching. A form of teaching that allows students to apply what they have learned to solve practical problems through a variety of individual, group, and

collective problem-solving activities.

1.7.2 Rehabilitation Therapy Technology

Rehabilitation therapy technology is a vital branch of the medical field that focuses on helping patients restore, improve, or maintain their physical function and enhance their quality of life through specialized means. Rehabilitation therapists help patients overcome physical dysfunctions caused by illness, injury, or disability by working with them to develop individualized rehabilitation plans and using a variety of therapeutic methods, including physical, occupational, and speech therapy, psychological rehabilitation, and prosthetic and orthopedic treatment. The primary goal of rehabilitation therapy technology is to help patients reintegrate into society and resume their everyday activities, including work. Rehabilitation Therapy Technology is also an emerging discipline, and the core of this program is to promote the physical and psychological rehabilitation of patients through scientific assessment and treatment. The program trains professionals to assess, treat, and prevent rehabilitation.

1.7.3 Practical Abilities

Practical ability is a multidimensional concept that can be divided into general, professional, and innovative practical abilities. General practical abilities include interpersonal skills, social adaptability, and organizational management. Professional practical ability refers to the ability to solve practical problems by applying professional knowledge within a specific field of expertise. Professional practical ability is not a castle in the air; it is built on general practical ability as its cornerstone. Creative, practical ability refers to the ability to apply existing knowledge to generate new insights, propose innovative ideas, and make informed, independent choices through continuous exploration and research. Innovative and practical abilities are built upon general practical abilities and professional practical abilities, which represent the highest level of students' practical skills.

1.7.4 The Effectiveness of Inquiry-Based Teaching Methods

The effectiveness of inquiry-based teaching methods is a multidimensional, multilevel task, encompassing the continuous exploration of context creation, classroom questioning, cooperative learning, inquiry operations, practical classroom activities, and classroom feedback. We should strive to create a high-quality and efficient classroom.

1.8 Significance of Research (Wang & Lu, 2013a; Li, 2017)

The following important significance was achieved in this research:

Theoretical significance: enrich the application research of inquiry-based teaching methods in the field of rehabilitation therapy technology specialty, and provide empirical support for related educational theories.

Practical significance: to provide guidance for the teaching practice of rehabilitation therapy technology majors, optimize teaching methods, enhance students' practical abilities, and meet the social demand for rehabilitation therapy talents.

Social significance: to improve the quality of rehabilitation therapy services and promote the development of social health by enhancing the practical abilities of students specialized in rehabilitation therapy technology.

CHAPTER II

LITERATURE REVIEW

2.1 Related Theories

2.1.1 Inquiry-Based Teaching Methods and Traditional Teaching Methods

American educator Dewey proposed that science education is important to learn the process or method of scientific research. All that schools can do or have to do for students is to cultivate their thinking abilities. This involves placing students in specific challenging situations, generating problems, and developing their critical thinking skills through inquiry-based teaching methods. This form of teaching activity is characterized by inquiry (Li, 2017). Teachers are the mentors of inquiry-based classroom teaching; students are the masters of it; and inquiry-based classroom teaching is an activity in which both teachers and students participate (Ma, 2013).

Inquiry-based teaching methods can not only achieve a deeper understanding and mastery of knowledge and skills but also be more conducive to the formation and development of innovative thinking and creative abilities that is; they are. In this process, the key to success lies in whether the student's leading position in the learning process can be more fully embodied, while also requiring guidance, help, and support from teachers (Dewey, 1990; Liu, 2007). In other words, the successful implementation of the inquiry-based teaching model involves two aspects: fully embodying the student's subjective position in the learning process and entirely playing the teacher's leading role in the teaching process. Leaving either of these parties, inquiry-based learning cannot yield good results. It can be seen that the "dominant-subject combination" is the fundamental characteristic of this teaching mode. In the information teaching environment, there are two standard inquiry teaching modes: the

inquiry teaching mode of establishing thematic websites and the inquiry teaching mode based on the Internet.

The traditional teaching method, often called the "lecture teaching method," emphasizes the teacher's leading role and students' passive role as recipients of knowledge. This mode of teaching has been historically justified, especially when resources are limited, the number of students is large, and it can efficiently impart a large amount of basic knowledge. Traditional teaching methods offer advantages in stability and reliability, are suitable for large-scale teaching, and support the maintenance of teacher-student interaction. However, traditional teaching methods also have their drawbacks, including the lack of personalized instruction, limitations in information transmission, and reduced student participation. With the continuous development of science and technology, digital and intelligent teaching methods have emerged and are now being applied, addressing some of the shortcomings of traditional teaching and providing a more personalized and interactive learning experience. Therefore, the education sector should actively adopt new teaching methods and continuously refine traditional ones to enhance teaching effectiveness and students' learning experience.

The traditional indoctrination of rehabilitation therapy often receives less attention, leading to a lack of emphasis on cultivating students' practical skills. Rehabilitation therapy technology is an efficient discipline, and students can better understand and master the material through hands-on experience. By reforming the practical teaching of rehabilitation medicine, strengthening its practical aspects, and focusing on cultivating students' practical operation abilities, students' practical abilities and application skills can be improved, and they can be trained to become rehabilitation medicine professionals with solid professional skills.

Traditional teaching methods primarily achieve the teaching goal through the teacher's explanation, demonstration, and students' practice. The teacher plays a

central role in the entire process, and students passively accept knowledge, seldom engaging in active thinking. In inquiry-based teaching methods, students are always the primary focus throughout the entire teaching process. The teacher presents the problem to be analyzed, discussed, and clarified, highlighting the general knowledge involved. Students, under the teacher's guidance, attempt to complete the task, receive help in solving the problem and finally summarize their experience to achieve mastery of the knowledge they have learned. During the implementation process, the vast majority of students believe that this teaching method can stimulate learning interest and that its teaching effect is better than that of the traditional teaching method.

Based on the above analysis, this research proposes hypothesis 1.

H1: Inquiry-based teaching methods can significantly improve the practical skills of rehabilitation therapy technology students.

2.1.2 Content and Characteristics of Inquiry-Based Teaching Methods

Inquiry-based teaching methods are an effective approach in line with the laws of education and close to real life through the creation of situations, questions, open classrooms, the cultivation of the spirit of cooperation, and other aspects of the strategy (Wang & Lu, 2013), which effectively improves students' enthusiasm for learning and their ability to explore independently, while at the same time promoting the development of their core literacy and practical abilities.

First, create a situation that stimulates the desire for an independent inquiry teaching career, with the core problem as the focus; learning activities are centered on this problem. The starting point of inquiry-based teaching is to pose the question that needs to be answered, which serves as the foundation for further inquiry. From a teaching perspective, teachers need to carefully consider, in line with the purpose and content of teaching and learning, posing questions of moderate difficulty that are logical and reasonable. A fascinating introduction and a suspenseful setting stimulate students' interest and curiosity, fostering a psychological desire to learn and actively mobilizing

their enthusiasm.

Secondly, the open classroom explores the potential for independent inquiry in a rich open problem situation for practical exploration. This is a key step in teaching: teachers should first help students draft a reasonable research plan and choose the appropriate method. At the same time, the teacher is required to provide specific practical conditions or necessary information that students must access themselves to answer questions and formulate their ideas. At this time, the teacher serves as an organizer, guiding and regulating the students' exploration. This process can be accomplished by individual students or by the teacher in groups. Attention should be paid to cultivating team spirit among students who seek cooperation. After the exploration process, students should summarize and organize their practical process or the information they consulted, and then draw their conclusions and provide explanations. Different students or teams can put forward different explanations or views on the same issue. They should be able to express their conclusions clearly and discuss them together. In an experimental investigation of a rich open problem situation, teachers help students develop a reasonable research plan, choose appropriate methods, guide them in conducting hands-on practicals, and access information to answer questions, thereby cultivating students' ability to explore and fostering the spirit of innovation.

Third, the timely allocation enables teachers to direct the inquiry, thereby achieving the purpose of independent learning. It guides students to identify their problems and provides appropriate allocation when they do not understand, thereby focusing on the development of students' core literacy training, from lecture-led to development-led, from the knowledge center to the literacy center, to effectively improve students' independent learning ability and play a key role in student participation.

Fourth, the classroom cooperative inquiry training enables students to learn

actively. In inquiry teaching, the teacher serves as a guide, with the primary task of inspiring and facilitating, while students act as inquirers, discovering new things through their inquiries. Therefore, we must balance the teacher's "lead" and the student's "exploration" of the relationship, neither letting go too much nor being too heavy-handed. Through cooperative learning, students can improve their ability to collaborate, fully demonstrate their strengths, cultivate emotional intelligence, and explore ways to optimize the classroom teaching model.

Fifth, practical application, through specialized classroom design, after determining the practical theme, creating problem situations, guiding students to ask questions and analysis based on theoretical analysis, developing practical plans, putting the designed program into practice, conducting a cooperative inquiry and actual operation, evaluating the results of the practical operation to see if the problem is solved, reflecting on the results, summarizing the lessons learned, and providing a reference for the next practical. Students apply theoretical knowledge to practical problem-solving, deepen their understanding and mastery of the subject through hands-on activities, and cultivate their practical skills and problem-solving abilities through real-world operations and applications.

Based on the above analysis, this research proposes hypothesis 2.

H2: Inquiry-based teaching methods improve students' practical abilities by creating situations, open classrooms, and opportunities for cooperative inquiry, and by promoting practical application.

2.1.3 Applicability of Inquiry-Based Teaching Methods to Practical Abilities

Rehabilitation therapy technology, as a relatively new medical discipline, was introduced late in China, and its education is still in its early stages. As China's economic level continues to improve, an increasing number of clinicians are recognizing the importance of rehabilitation. The development of rehabilitation

technology depends on the continuous improvement of rehabilitation technology education. Practical teaching is a vital means to enhance students' theoretical and practical knowledge, serving as a crucial link to improve their comprehensive quality and deepen classroom teaching, and providing an essential means for students to acquire and master knowledge. Rehabilitation therapy technology requires students to possess strong hands-on skills and broad thinking; however, in practical classes, due to the nature of the disease and the instruments and equipment used, students' hands-on and logical thinking skills are often hindered. Therefore, the key to promoting reform in practical teaching and the talent-training mode lies in reforming practical teaching methods. In the rehabilitation therapy technology specialty, students must master a rich theoretical knowledge base while also developing solid practical skills.

According to the Marxist philosophical viewpoint, practice refers to all social and objective-material activities of human beings aimed at transforming and exploring the real world. Competence is understood from the psychological point of view as "the psychological characteristics of personality that directly affect the efficiency of an activity and enable it to be accomplished." Practical competence is the highest level of practical. Practical abilities refer to the capacity to be practical, i.e., the subject's ability to grasp the objective world purposefully and consciously. In the psychological sense, the practical abilities to solve problems form the core, not a single latitude ability structure, but a multi-latitude, multi-level organic combination. According to the theory of successful intelligence proposed by the renowned American psychologist Gardner, successful intelligence encompasses analytical, creative, and practical intelligence. Practical intelligence is the ability to solve practical problems, enabling the subject to integrate existing ideas, experiences, and information analysis to achieve a goal within a specific environment. Stenberg utilized implicit knowledge to elucidate the psychological mechanisms underlying practical abilities and their psychological origins, noting that practical intelligence is positively correlated with an

individual's implicit knowledge. Implicit knowledge primarily comes from experience and is typically acquired independently rather than through direct assistance from others. In summary, the text should have the following practical abilities and qualities:

A comprehensive ability. In the past, it was often thought that practical abilities referred only to hands-on and operational skills, thereby limiting their scope. In a broad sense, practical abilities should be the external manifestation of an individual's comprehensive ability.

Practical abilities are a crucial manifestation of individual subjectivity, reflecting the level of its development. As college students, practical abilities mainly refer to students' ability to absorb and integrate educational resources and individual basic resources to adapt to social life, solve practical problems, and participate in practical social activities, thereby promoting self-growth and enhancing the status of self-practical subjects (Bai, 2004; Chen & Liu, 2011).

Problem-solving ability is the core part of the practical abilities structure. Problems here can refer to the issues encountered in daily life as well as the difficulties and contradictions faced.

Practical abilities and theoretical knowledge are not two separate things but rather two sides of the same coin. Materialism holds that the subject's practical abilities result from rational understanding, leading to a transition from theoretical to practical understanding, in which practicality is guided by theory. Practical theory provides the basis and direction for practical behavior, and practical abilities encompass the entirety of theoretical knowledge and its practical application (Wang, 2005a).

Cultivating practical abilities is the core of quality education. However, the practical abilities of college students in China are concerning for the effectiveness of education. The current competition among countries is a competition of talent, especially in terms of higher talent production capacity. Therefore, cultivating students with both theoretical knowledge and strong practical skills has become an urgent

challenge.

Inquiry-based teaching methods are a popular approach in today's educational landscape. As early as 1961, Joseph J. Schwab, a professor at the University of Chicago, first put forward the "teaching of science as inquiry" (teaching science as inquiry) in a speech at Harvard University.

Inquiry-based teaching emphasizes "students as the main body, playing the student's subjective initiative", changing the traditional "full of irrigation", "delivery and acceptance" teaching mode, focusing on the teaching process and quality, and emphasizing the students' active role. It changes the traditional teaching mode of "filling the classroom" and "delivering and accepting" to focus on the teaching process and quality, and to emphasize students' active participation and the cultivation of problem-solving abilities. In the process of inquiry lies the essence of education, so inquiry-based teaching is universally applicable, and the teaching of rehabilitation therapy technology is no exception.

Inquiry-based teaching methods offer significant advantages for developing the practical skills required for rehabilitation technology. By simulating real clinical situations, students can conduct rehabilitation assessments and treatment operations in a simulated environment. This kind of simulation training can help students combine theoretical knowledge with practical skills and improve their practical clinical ability; in addition, this kind of teaching method can stimulate the active learning interest of students, and in the process of independent learning and exploration, students gradually develop the habit of actively acquiring new knowledge and constantly updating their knowledge base, which is of great significance for them to maintain their competitiveness in the rapidly changing medical field in the future, and at the same time, it also improves their ability to analyze and solve problems, to show higher professional competence in the practical of rehabilitation therapy, which plays a positive effect.

The inquiry-based teaching methods have demonstrated positive teaching effects and high student satisfaction in the teaching of practical competence in rehabilitation therapy technology. Studies have shown that the PBL+CBL dual-track teaching method, grounded in the International Classification of Functioning, Disability, and Health (ICF) framework, can significantly improve students' clinical thinking, active learning, and practical skills. In terms of teaching satisfaction, students demonstrated high evaluations of the necessity of the teaching method and overall satisfaction, particularly in clinical thinking, problem-solving, and communication and teamwork skills (Wang, 2005).

Additionally, the application of the integrated blended teaching method in the Clinical Rehabilitation Laboratory course yielded significant teaching outcomes, including notable improvements in student satisfaction and final grades. This teaching mode fully mobilizes the classroom atmosphere. It engages students' learning interests through the combination of online and offline elements, making the classroom more active and students more engaged in the learning process.

In summary, inquiry-based teaching methods in the teaching of practical rehabilitation therapy technology improve not only students' professional ability and theoretical knowledge but also enhance their critical thinking (Li, 2017).

Based on the above analysis, this research proposes Hypothesis 3.

H3: Students are more satisfied with inquiry-based teaching methods in improving their practical abilities.

2.2 Related Studies

2.2.1 Theoretical Foundations of Inquiry-Based Teaching Methods

The teaching mode has an indigenous relationship with the school of teaching theory. Any teaching mode, whether conscious or not, is formed based on a

particular teaching theory or under the guidance of a specific teaching theory (Chen & Liu, 2011). Without a specific teaching theory to guide it, establishing a corresponding teaching model is impossible. In a sense, the teaching mode is the application and materialization of specific teaching theories in practical teaching. Therefore, it can be said that teaching theory is the soul of teaching mode. The formation of inquiry-based teaching mode is influenced by a variety of educational theories, and several major theories are introduced below:

(a) Marxist epistemology: Practical is the basis of cognition, and students' cognitive ability must be gradually improved through practice. Using what they have learned to solve practical problems enables students to enhance their cognitive abilities as they integrate theory and practice. Therefore, students should be allowed to take the initiative in the learning process, exploring, discovering problems, and applying what they have learned to research and solve them. The process of the historical development of human knowledge is, in general, a process of "practical - theory - practical" in teaching, using historical methods, implementing The principle of "practical - theory - practical" inquiry teaching is the implementation of this law of philosophical understanding of the practical teaching methods, this teaching method can be in the students' original based on the cognitive structure, through in-depth inquiry, constantly realize from perceptual understanding to rational understanding, from the phenomenon to the essence, from the external link to the internal link of knowledge.

(b) Constructivist learning theory: A significant influence on inquiry teaching is the constructivist learning theory. Constructivism believes that learning is an active, constructive process. The learner does not passively receive external information; instead, according to their previous cognitive structure, they actively and selectively construct the meaning of the current thing (Chen & Liu, 2011). Knowledge is the rationalization of personal experience. The formation of personal knowledge does not depend on the uniformity of the objective world but on the understanding that the

individual develops through communication and cooperation with others (Wang, 2005a). The learner's constructs are diverse, and because of the complexity and diversity of things, the construction of meaning will differ. Therefore, constructivist teaching is an effort to create a suitable learning environment that enables learners to actively construct their knowledge, focusing on the organic combination of new and old knowledge in the teaching and learning process. This approach cultivates students' ability to analyze and solve problems, as well as think creatively and critically.

(c) The theory of multiple intelligences. Prof. Howard Gardner of Harvard University, in *The Structure of the Mind*, defines intelligence as "the ability that an individual needs to solve real problems he or she encounters, or to produce and create a certain kind of product, under the value standards of a certain social and cultural environment." At the same time, he believes that human intelligence is a combination of multiple intelligences rather than a single ability, encompassing at least seven types: verbal-linguistic, musical-rhythmic, logical-mathematical, visual-spatial, physical-kinesthetic, self-knowledge-introspective, and interaction-communicative. Because of the diversity and complexity of students' intelligence manifestations, teaching and learning should be a kind of "symptomatic" approach tailored to students' needs. The research-based curriculum diverges from the textbook as the sole vehicle for teaching, making the teaching process more diversified and comprehensive. This approach enables each student to develop their strengths and promotes cooperation rather than mere competition. Since different intellectual fields employ distinct symbol systems and have unique developmental processes, teachers' teaching methods and tools should vary according to the specific content, and there should be targeted guidance for students with diverse intellectual characteristics, learning styles, and developmental trajectories. In inquiry-based group activities, students have different roles and make their own choices. In the process of communication and guidance, the teacher will offer more specific suggestions and diverse evaluation criteria, and students will have more

opportunities for growth and success.

(d) Humanistic psychology theory: Humanistic psychology respects the value of human beings and their rationality, believing that individuals are active and rational, pursuing valuable goals, and possess a positive attitude towards life and growth (Chen & Liu, 2011). The core of humanistic thought is humanization, which posits that human beings possess innate good potential and that the role of education is to enable them to realize their inherent potential. Humanistic educators, represented by Rogers, proposed the "learner-centered" viewpoint of education, believing that the fundamental purpose of education is to develop students' personalities and realize their full potential. Education should leave the choice of self-realization to students and foster their independent inquiry and self-development. Teaching should respect the "four qualities": participation, autonomy, emotion, and originality; develop students' self-concept; promote the principle of combining students' initiative and teachers' leadership; and attach great importance to the development of students' personalities and personal values. This is precisely the prerequisite for implementing inquiry-based teaching (Chen & Liu, 2011).

2.2.2 The Current Situation of Applying Inquiry-Based Teaching Methods in Tertiary Institutions

The teaching method refers to the general term for how teachers and students interact in the process of teaching and learning to achieve specific teaching purposes and accomplish specific teaching tasks. The teaching method is a crucial component of classroom instruction and a fundamental element of teaching. Teaching methods used appropriately or not affect the effect of teaching. Currently, although the development of higher vocational colleges and universities is rapid, the number of students is decreasing annually. However, as the number of students decreases year by year, a student shortage is emerging. To achieve sustainable development, higher vocational colleges and universities must strengthen their internal structures and

enhance the quality of talent training. Society has also set other standards. How do we break through traditional teaching methods? How to break through traditional teaching methods and effectively cultivate students' vocational qualities and abilities so they can be recognized by society has become a pressing problem.

Compared with developed countries abroad, China's higher vocational education has developed relatively slowly. Compared with developed countries, China's higher vocational education is at a relatively late stage, and its research and practical teaching methods are also at an initial stage. Theoretically, more advanced concepts and practices from other countries are introduced, such as action-oriented, project-based cooperation, task-driven, and situational teaching; practically, some specific courses have been tested, but they have not yet been widely adopted (Ma, 2013).

Problems Prevalent in the Classroom Teaching Methods of Domestic Higher Vocational Institutions. Although many domestic higher vocational institutions have undergone more than 10 years of teaching reform and development, they have yet to overcome the constraints of the disciplinary model in classroom teaching. Higher vocational teaching has evolved into a condensed form of subject teaching, characterized by unidirectional teacher-student transmission and a predominantly theoretical approach. The teaching methods are based on unidirectional knowledge transmission from teacher to student. They are overly theoretical, failing to recognize the characteristics of vocational education, such as diversification, concretization, visualization, and rationalization, which are grounded in the work system.

Traditional lectures are not sufficiently diversified and comprehensive. General education cultivates academic talents through more theoretical courses taught by teachers, which favor the transmission and mastery of academic knowledge. Vocational education aims to train skill-oriented talent, emphasizing the application of knowledge and the cultivation of skills, while also stressing students' hands-on ability. It trains "quasi-professionals" with a range of vocational skills, which is not possible

with the lecture-based teaching method alone. As many teachers in vocational institutions come from undergraduate institutions and receive their education within the academic system, they inevitably inherit its teaching methods and seldom adapt them to the characteristics of vocational education.

Little interaction between teachers and students. Low level of student participation. Constructivist learning theory suggests that meaningful learning is based on the individual's own experience and existing texts and concepts, with the individual taking the initiative to acquire information from the surrounding environment. It is the individual's initiative to acquire information from the surrounding environment, relate it to what is already known, and construct a new structure of knowledge that belongs to the individual, i.e., the self-construction of knowledge. That is, the self-construction of knowledge. Therefore, vocational education must place students in a real learning situation and rely on their active "action" to gain self-experience. Acquiring a generative understanding of the domain of work knowledge. This requires us to stimulate students' enthusiasm for participation in the classroom and to enhance their initiative and autonomy. Transform one-way information transmission into a two-way interaction so that teachers are happy to teach and students are happy to learn. However, the long-standing "duck-filling" teaching has cultivated inertia in students' thinking. Students lack a sense of participation; they are passive recipients, and if the teacher does not name names and ask questions, the students who do not answer are missing. Few students have few, if any, active answers.

It is too abstract, not concrete and visual. Vocational education is based on work systems. Vocational education is based on the work system and often requires a particular context. Therefore, it is necessary to strive for concreteness and visualization in teaching and learning, which is also the purpose of establishing various professional training rooms in many schools. Although many practical courses simulate the workplace and employ "work site" teaching, due to various constraints, students may

not be able to learn the subject in the same way as they would in a traditional practical course. However, due to various constraints, schools cannot be equivalent to enterprises, and the knowledge and skills students acquire through practical training courses are often fragmented and complex to integrate into a cohesive system, which can still be somewhat abstract for students. As a result, many students have noted that practical training in schools differs significantly from that in real-world workplaces. This is particularly true for practical courses, as well as other theoretical ones.

Teachers use fewer types of teaching methods. Overall, the most common teaching method used by teachers was the "lecture method". The most common method of student participation was "listening" Questioning", "case studies", "demonstration," and "group teaching" were used in many courses. The "questioning", "case method", "demonstration method," and "group teaching method" are used in many courses. Relatively new teaching methods such as "workplace teaching", "task-driven", "project-oriented," and "simulation teaching" were used in many courses. Vocational teaching methods such as "workplace teaching", "task-driven", "project-oriented," and "simulation teaching" are only found in some practical courses.

The use of teaching methods varies considerably from one course to another. Theoretical courses are based on lectures, questioning, and case studies. Due to teachers' limited qualifications and unfavorable teaching conditions, some public theory classes are held in large classrooms. Although most teachers prepare numerous cases and actively ask questions to capture students' attention, sleeping and playing with cell phones are still common behaviors. Professional theory classes were also mostly lecture-based, with many teachers teaching in a duck-and-duck manner with little interaction between teachers and students. Practical classes were mainly conducted by students with guidance from teachers. Students were more interested and took the classes more seriously, but there were many problems as well. However, there were many problems as well. In particular, in the computer room, while the teacher was

lecturing, some students were surfing the Internet and playing games. Only when the teacher comes down to check will the students switch the screen to the teaching interface.

In many cases, teachers in the computer room adopt project-oriented and task-driven teaching methods. Suppose students do not complete the previous assignments seriously. In that case, it will be challenging for them to complete subsequent tasks, which will directly affect the course's overall effectiveness. Although student satisfaction has improved, the effectiveness of the teaching method has yet to be proven. However, its effectiveness has yet to be proven.

2.2.3 Application of Inquiry-Based Teaching Methods in Practical Rehabilitation Therapy

Clinical practical teaching is a crucial component of medical education. In simulation or real clinical environments, students, under the guidance of teachers, perform actual procedures to cultivate their clinical thinking and operational skills. Practical teaching generally refers to "teaching activities such as experiments, engineering practicals, etc., which enable students to acquire new theoretical knowledge directly through perceptual learning, research, and other means, and to realize the improvement of students' theoretical knowledge in the classroom (Wang, 2005a).

The inquiry teaching of rehabilitation therapy technology has the following characteristics and advantages:

Firstly, the practical courses in rehabilitation therapy technology include apprenticeship courses (primarily in teaching hospitals) and experimental courses (mainly in laboratories). It provides a better platform for inquiry and practical teaching, and enables students to complete the learning content step by step. Secondly, there are more types of disease sources involved in practical classes on rehabilitation therapy technology, offering a wide range of choices. Different options can be designed

according to various teaching purposes. For example, the rehabilitation treatment of stroke patients includes physical therapy, occupational therapy, speech therapy, prosthetic and orthotic therapy, psychological therapy, Chinese traditional rehabilitation therapy, rehabilitation nursing, etc. Among them, physical therapy includes exercise therapy, physical factor therapy, and other related therapies. According to the disease's stages (acute, recovery, and post-discharge), treatment methods and focuses differ, allowing tailored approaches to meet a variety of specific needs. These can be explored through the design of specific screening programs. Thirdly, the whole process not only involves basic experimental steps, such as researching a specific technique or case data, discussing in groups, role-playing, and proposing and justifying a treatment plan for kinesiotherapy, but also includes the means and techniques of specific treatments, which enhances the comprehensiveness and exploratory nature of the practical. The methods used by the groups were similar but not identical. In such an environment, students can learn from and refer to one another while retaining their unique characteristics, thereby promoting mutual learning and improving efficiency and teaching effectiveness.

In conclusion, the research content and scope of the rehabilitation medicine practical class are more extensive. The degree of exploratory research can be either difficult or easy, making it suitable for the training requirements of different students. Inquiry-based practical teaching is an excellent approach for teaching medical students.

The rehabilitation therapy technology practical class is highly exploratory and well-suited for designing and developing inquiry-based practical teaching projects for students in this specialty. After several years of teaching practicals and accumulation, has initially established part of the inquiry teaching platform for rehabilitation therapy students, and its teaching process is roughly divided into the following: 1) the stage of raising questions: investigation and screening and resource access to relevant literature; 2) the stage of setting the program: under the guidance of the teacher by the students in

small groups as a unit of the independent design to complete; 3) the stage of practical and exploration: this stage is the core part of the practical, through the practical of the 4) Statistical data stage: after the practical is completed, students work in groups to complete the statistics and analysis of the data, and summarize the process; 5) Writing reports, etc.; 6) Presentation: in the form of a seminar, the presenters use PPT to present the results of the practical, to achieve mutual learning and improve the student's ability to express themselves. So far, we have established an inquiry-based practical teaching model and platform that meets the requirements of current practical teaching in rehabilitation therapy technology; however, the development and improvement of this model remain urgent problems to be addressed.

2.2.4 Literature Review

After an in-depth analysis of related literature, it can be seen that current research mainly focuses on the content and characteristics, theoretical foundations, and current status of research in three areas. The analysis of the concept of inquiry-based teaching methods can lay the foundation for subsequent research. The reform of teaching methods has become the consensus of all walks of life (Li, 2017; Wang & Liu, 2013a). Inquiry-based teaching methods are highly significant for enhancing students' practical rehabilitation skills in higher vocational colleges and universities. The above literature has significant reference value for this research; however, we should also acknowledge a substantial gap between the research results presented in the literature and the actual requirements. This research gap is mainly reflected in the following aspects: Although we have carried out some exploration and made some achievements in inquiry-based practical teaching in rehabilitation therapy technology in recent years, inquiry-based practical teaching is still a new attempt and a new challenge for our rehabilitation therapy technology majors, and there are still many difficulties and deficiencies. Firstly, although the inquiry teaching method is universally applicable, it focuses on the teaching process and quality and conforms to the law of education.

However, higher vocational education is relatively new, and research and practical teaching methods are still in the initial stage. Secondly, inquiry-based teaching imposes higher overall requirements on students, and how to effectively apply it and play the central role of students in actual teaching remains to be proven. Thirdly, there is a lack of application experience. In the process of practical teaching, many of our teachers lack sufficient knowledge of the characteristics and principles of inquiry-based teaching, which hinders their ability to apply it effectively and results in unsatisfactory teaching outcomes. However, the above literature does not analyze these influencing factors in depth. Therefore, based on a detailed review of relevant literature, this research employed an empirical analysis to explore the key influencing factors.



CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

In this research, the researcher employed a mixed-methods approach, combining qualitative and quantitative methods to examine the impact of Integrating Inquiry-Based Teaching Methods on the Practical Abilities of Rehabilitation Therapy Technology Students. The research design employed a control group and experimental group structure to measure changes in students' practical abilities resulting from exposure to inquiry-based teaching methods. This paper enabled a systematic assessment of how inquiry-based teaching methods affected various aspects of practical abilities, including self-directed learning, practical operation, cooperation and communication, and problem-solving.

Additionally, provide clear options and scales in the questionnaire so that students can clearly express their views and experiences. For example, you could use a 1-5 rating scale for scale questions, allowing students to choose the option that best fits their situation. Ensure the questionnaire questions are clear and concise, avoiding complex or vague language so students can understand and answer them accurately.

3.2 Sample and Sample Sizes

3.2.1 Population

The purpose of this research is to investigate the effects of inquiry-based teaching methods on students' practical skills in rehabilitation therapy technology. The research population consisted of the 2023 freshmen majoring in rehabilitation therapy technology at Yunnan College of Economics and Trade and the Foreign Affairs Vocational College. According to the official website of Yunnan College of Economics

and Trade and Foreign Affairs Vocational College, approximately 100 new students are expected to enroll in the 2023 academic year. There are two classrooms, designated as Classroom 1 and Classroom 2. The freshmen in the class of 2023 at Yunnan College of Economics and Trade and Foreign Affairs are roughly 18-19 years old, and most are from Yunnan. In addition, Yunnan Vocational College of Economics and Trade and Foreign Affairs was founded in 1992, approved by the provincial people's government in 2004, and recorded by the Ministry of Education of the People's Republic of China as a full-time general vocational school of higher education, and in 2011, the school was identified as a Yunnan provincial demonstrative vocational college of higher education.

3.2.2 Samples

The research subjects in this paper were from 2 classes of freshmen at Yunnan College of Economics and Trade and the Foreign Affairs Vocational College. Fifty students from Classroom 1 were assigned to the control group, and 50 students from Classroom 2 were assigned to the experimental group.

3.2.3 Sampling Methods

Simple random sampling was used in this research. At the beginning of this semester, there were 100 first-year students in the rehabilitation therapy program of Yunnan College of Economics and Trade and Foreign Affairs Vocational College. Students were invited to fill out the questionnaire to ensure its accuracy and validity. The research subjects in this paper were from 2 classes of freshmen at Yunnan College of Economics and Trade and the Foreign Affairs Vocational College. Fifty students from Classroom 1 were assigned to the control group, and 50 students from Classroom 2 were assigned to the experimental group. In the research design, before using inquiry-based teaching methods, students first received a questionnaire to choose the teaching method they wanted for their classroom. Students were then divided into two groups in proportionate numbers. At the end of the semester, the results of the practical activities

and the teaching methodology survey were recorded for 100 students. These results were compared between the experimental and control groups, and the t-test was used to analyze the data, which showed a statistically significant difference. By comparing the questionnaire results at the end of the semester, the experimental group was assessed to determine whether inquiry-based teaching methods significantly improved students' practical abilities. At the beginning and end of the semester, students' practical ability scores were recorded and compared with those of the experimental and control groups to determine whether there was an improvement in students' practical abilities.

3.3 Research Instrument

Part 1. To answer research question 1

3.3.1 Lesson Plans

Experimental group:

Five comprehensive lesson plans were developed, each of which was carefully crafted to last 45 minutes and include the following:

Table 3.1 Lesson Plans (Experimental Group)

Contents	Lesson Plans
1. Pain Assessment	1. Creating situations (5 minutes): Present case research on a patient with chronic pain to provide students with an initial understanding of the impact of pain on the patient's life. 2. Open classrooms (10 minutes): The teacher poses fundamental questions about pain assessment to stimulate students' thinking and encourage them to share their insights and questions. (Wang & Lu, 2013a). 3. Cooperate and inquire (15 minutes): Students were divided into groups, and

Contents	Lesson Plans
<p data-bbox="292 947 715 981">2. Muscle Strength Assessment</p>	<p data-bbox="847 342 1380 589">each group was responsible for different aspects of pain assessment, including pain classification assessment methods and evaluation tools. They then summarized and discussed these aspects at the end.</p> <p data-bbox="847 600 1380 891">4. Practical application (15 minutes): Students use various pain assessment tools, such as VAS and NRS, to conduct a simulated assessment, analyze the results, and discuss the accuracy of pain assessment and individual patient differences.</p> <p data-bbox="847 902 1380 1115">1. Creating situations (5 minutes): Present a video or case research that demonstrates the use of muscle strength assessment in areas such as athletic training and rehabilitation therapy.</p> <p data-bbox="847 1126 1380 1328">2. Open classrooms (10 minutes): let 2 students ask questions or points of interest about plyometrics, and the teacher records and integrates these questions.</p> <p data-bbox="847 1339 1380 1585">3. Cooperate and inquire (15 minutes): In groups, students investigated various tools and techniques for plyometric assessment, such as handheld dynamometers and isokinetic dynamometers.</p> <p data-bbox="847 1597 1380 1809">4. Practical Application (15 minutes): Students use the plyometric tools for hands-on practical exercises and simulate the process of plyometric assessment for various muscle groups.</p>
<p data-bbox="292 1865 730 1899">3. Balance Function Assessment</p>	<p data-bbox="847 1821 1380 2022">1. Creating situations (5 minutes): Using multimedia to show videos of patients with balance dysfunction so that students can understand the clinical significance of the assessment.</p>

Contents	Lesson Plans
	<p>2. Open classrooms (10 minutes): The teacher poses fundamental questions about balance assessment to stimulate students' thinking and encourage them to share their own opinions and questions.</p> <p>3. Cooperate and inquire (15 minutes): Students work in groups, with each group responsible for a different assessment tool or method, such as the Berg Balance Scale or the Fugl-Meyer Assessment and conduct in-depth research within their group.</p> <p>4. Practical Application (15 minutes): Students conduct simulated assessments using various assessment tools, analyze the results, and discuss the accuracy of balance function assessment and individual differences in patients.</p>
<p>4. Coordination Function Assessment</p>	<p>1. Creating situations (5 minutes): Using multimedia to showcase coordination dysfunction so that students can understand the practical significance of coordination function assessment.</p> <p>2. Open classrooms (10 minutes): Teachers pose fundamental questions about coordination assessment to stimulate students' thinking and encourage them to share their insights and questions.</p> <p>3. Cooperate and inquire (15 minutes): Students work in groups, each group responsible for a different assessment tool or method, such as the Fugl-Meyer Assessment, and conduct in-depth research within the group.</p> <p>4. Practical application (15 minutes): students use different assessment tools to conduct simulated assessments, analyze the assessment results, and discuss the</p>

Contents	Lesson Plans
<p data-bbox="309 510 754 544">5. Walking Function Assessment</p>	<p data-bbox="850 342 1380 461">accuracy of coordinated functional assessment and individual differences in patients.</p> <ol data-bbox="850 472 1380 1498" style="list-style-type: none"> <li data-bbox="850 472 1380 719">1. Creating situations (5 minutes): Utilizing multimedia to demonstrate walking dysfunction, enabling students to understand the practical application and importance of walking function assessment. <li data-bbox="850 730 1380 976">2. Open classrooms (10 minutes): The teacher poses fundamental questions about walking function assessment to stimulate students' thinking and encourage them to share their own opinions and questions. <li data-bbox="850 987 1380 1234">3. Cooperate and inquire (15 minutes): Students work in groups, with each group responsible for a different assessment tool or method, such as gait analysis, and conduct in-depth research within the group. <li data-bbox="850 1245 1380 1498">4. Practical application (15 minutes): Students use the assessment tools to conduct a simulated assessment, analyze the results, and discuss the accuracy of the walking function assessment and individual patient differences.

Control group:

The control group was taught using traditional lecture-based methods, a teacher-driven process in which students passively receive knowledge. Second, the samples were selected according to the methodology of this paper, and both groups had the same teachers and the same textbooks used to exclude the influencing factors of the content of the materials; the teaching was carried out at the same time, with the duplicate content and the same number of hours of teaching, in order to eliminate the

influence of the time spent in class and the time spent on receiving education on the results. The control and experimental groups were assessed in the same way to ensure fairness and comparability, and to avoid using any interventions in the control group that differed from those in the experimental group.

Part 2. To answer research question 2

3.3.2 The Test

The paper test consisted of 30 multiple-choice questions that were designed to assess students' knowledge and understanding of five key areas. Each question provided four options (a, b, c, and d) from which students must choose the correct answer.

Lesson Plan 1 Pain Assessment (6 questions)

Lesson Plan 2 Muscle Strength Assessment (6 questions)

Lesson Plan 3 Balance Function Assessment (6 questions)

Lesson Plan 4 Coordination Function Assessment (6 questions)

Lesson Plan 5 Walking Function Assessment (6 questions)

Part 3 Answering research question 3

3.3.3 Questionnaire

Likert's (1932) scale is widely used as one of the most fundamental and frequently used psychometric tools in educational and social science research.

Likert scales commonly comprise either five or seven options. The options on each end are called response anchors. The midpoint is often a neutral item, with positive options on one side and negative options on the other. Each item is given a score from 1 to 5. Each item was rated on a 5-point Likert scale ranging from:

1= "Strongly Disagree"

2="Disagree"

3=" Moderate"

4=" Agree"

5="Strongly Agree"

Student satisfaction was defined as evaluations involving the following: (20 items)

1. Students' notes or summaries to assess their self-directed learning ability (5 items)

2. Students' activities in practical exercises to get an idea of their practical operation ability (5 items)

3. In students' activities in teamwork or group discussion, and to assess their cooperation and communication ability (5 items)

4. Discussions or interviews with students about their practical experiences, difficulties, and solutions, as well as an assessment of their problem-solving ability. (5 items)

The questionnaire was developed in both Chinese and English to ensure that language is not a barrier to accurate responses. Translations underwent a rigorous back-translation process to ensure parity between versions. To maximize response rates and data quality, the questionnaire was administered online through a user-friendly survey platform. The platform was tested for compatibility with various devices and browsers to ensure it is accessible to all students. Reminder emails and classroom announcements were used to encourage participation and minimize non-response bias.

3.4 Data Collection

Table 3.2 Table for Timetable for Collecting Data

Tentative Date	Data Collection Process
April	Getting permission from Yunnan A college
May	Questionnaire content validity
June	Translation check
July	Thesis proposal defense presentation

3.5 Data Analysis

1. Qualitative data collected through Field notes by coding to the grounded theory and content analysis.

2. Quantitative data are analyzed through M and S.D., and the mean value of the suitability score of expert opinions is calculated and compared with the following criteria:

A mean score of 4.51- 5.00 means “very satisfied.”

A mean score of 3.51- 4.50 means "satisfied."

A mean score of 3.01-3.50 indicates "moderation."

A mean score of 1.51 -3.00 means "dissatisfied."

A mean score of 1.00-1.50 indicates "very dissatisfied."

Table 3.3 Table of Framework for Data Collection and Analysis

Research Questions	Research Objectives	Research Instruments	Data Collection	Data Analysis
Is there a statistically significant difference between inquiry-based teaching methods and traditional teaching methods in enhancing students' practical abilities?	To investigate the differences between inquiry-based teaching methods and traditional teaching methods in enhancing students' practical abilities.	Lesson Plans, Questionnaire	Questionnaire administration And Lesson plans implementation	Mean, Standard Deviation, T-test
How do inquiry-based	To research how	Paper Test, Lesson Plans	Pre and post-tests with	Mean, Standard

Research Questions	Research Objectives	Research Instruments	Data Collection	Data Analysis
teaching methods enhance students' practical abilities in rehabilitation therapy technology?	Inquiry-based teaching methods enhance students' practical abilities.		students, Implementation of lesson plans	Deviation, T-test, Content Analysis
What are students' perceptions of inquiry-based teaching methods in improving their practical abilities?	To explore students' satisfaction with inquiry-based and traditional teaching methods in enhancing students' practical abilities.	Questionnaire	Questionnaire distribution and collection	Mean, Standard Deviation, Content Analysis

3.6 Content Validity and Reliability

To ensure the content validity of the research instruments, a panel of experts in education research reviewed the

1. Questionnaire

- (1) Teaching methodology investigation on the process of lesson plan development of freshman students in Yunnan College of Economics and Trade and Foreign Affairs Vocational College in order to improve students' practical abilities.

- (2) The conceptualization and development process of the questionnaire on

inquiry-based teaching methods for freshmen in Yunnan College of Economics and Trade and Foreign Affairs Vocational College were studied

(3) Drafted questionnaire: rating scale of Likert (1932) scale, 5 levels (Likert, 1938) with very satisfied, satisfied, moderate, dissatisfied, and very dissatisfied.

(4) Verified questionnaire by advisers.

(5) Modified the questionnaire according to the suggestion.

(6) Verified the validity of the questionnaire by three experts.

(7) Modified the questionnaire according to the suggestions and selected 20 appropriate items.

(8) Data Collection

Coordinating with three compulsory education experts through questionnaires, data were collected from Yunnan College of Economics and Trade and Foreign Affairs Vocational College for analysis.

(9) Data Analysis

The data analysis is as follows:

Rating is +1. There is an opinion that “Corresponds to definition.”

The rating is 0. There is an opinion that *I am not sure* corresponds to the definition.

The rating is -1. There is an opinion that “Inconsistent with definition.”

Find the IOC (Index Objective Congruence). The content consistency standards index, with a value of 0.5 or higher, was considered suitable for research. The IOC (Index of Objective Consistency) was analyzed as greater than or equal to 0.5.

2. Lesson plans

(1) Drafted questionnaire: rating scale of Likert (1932) scale, 5 levels (Likert, 1938) with very satisfied, satisfied, moderate, dissatisfied, and very dissatisfied, has 30 questions.

(2) Verified paper test by advisers.

(3) Modified the paper test according to the suggestion.

(4) Verified the validity of the by three experts.

(5) Modified the paper test according to the suggestion and selected 30 appropriate items.

(6) Data Collection

Coordinating with three compulsory education experts through questionnaires, data were collected from Yunnan College of Economics and Trade and Foreign Affairs Vocational College for analysis.

(7) Data Analysis

The data analysis is as follows:

Rating is +1. There is an opinion that “Corresponds to definition.”

The rating is 0. There is an opinion that I am not sure corresponds to the definition.

The rating is -1. There is an opinion that “Inconsistent with definition.”

Find the IOC (Index Objective Congruence). The content consistency standards index, with a value of 0.5 or higher, was considered suitable for research. The IOC (Index of Objective Consistency) was analyzed as greater than or equal to 0.5.

3. The Satisfaction Questionnaire

Teaching methodology investigation on the process of lesson plan development of freshman students in Yunnan College of Economics and Trade and Foreign Affairs Vocational College in order to improve students' practical abilities.

The conceptualization and development of the questionnaire on inquiry-based teaching methods for freshmen at Yunnan College of Economics and Trade and the Foreign Affairs Vocational College were studied.

(3) Drafted questionnaire: rating scale of Likert (1932) scale, 5 levels (Likert, 1938) with very satisfied, satisfied, moderate, dissatisfied, and very dissatisfied.

(4) Verified questionnaire by advisers.

(5) Modified the questionnaire according to the suggestion.

(6) Verified the validity of the questionnaire by three experts.

(7) Modified the questionnaire according to the suggestion and selected 20 appropriate items.

(8) Data Collection

Coordinating with three compulsory education experts through questionnaires, data were collected from Yunnan College of Economics and Trade and Foreign Affairs Vocational College for analysis.

(9) Data Analysis

The data analysis is as follows:

Rating is +1. There is an opinion that “Corresponds to definition.”

The rating is 0. There is an opinion that I am not sure corresponds to the definition.

The rating is -1. There is an opinion that “Inconsistent with definition.”

Find the IOC (Index Objective Congruence). The content consistency standards index, with a value of 0.5 or higher, was considered suitable for research. The IOC (Index of Objective Consistency) was analyzed as greater than or equal to 0.5.

The reliability, difficulty, and discrimination of understanding are 0.52, as measured by Cronbach's alpha.

CHAPTER IV

ANALYSIS RESULT

4.1 Research Finding

This chapter compares the effects of inquiry-based teaching methods on students' practice competence in the rehabilitation therapy technology major, focusing on freshmen in the experimental and control groups. The data obtained in the comparative study were analyzed, including descriptive analysis of the questionnaire data, analysis of variance (ANOVA), and observational analysis. Through these analyses, the researcher aims to reveal differences in the use of inquiry-based teaching methods between the experimental and control groups, providing valuable insights into the teaching and learning of practice competence in rehabilitation therapy technology.

Research questions include:

1. Is there a statistically significant difference between inquiry-based teaching methods and traditional teaching methods in enhancing students' practical abilities?

2. How do inquiry-based teaching methods enhance students' practical abilities in rehabilitation therapy technology?

3. What are students' perceptions of inquiry-based teaching methods in improving their practical abilities?

As a student-centered teaching model that focuses on practice and experience, the core of the inquiry-based teaching method is students' independent Inquiry (Liu, 2007; Wang & Liu, 2013a). In this educational method, students are no longer passive recipients of knowledge but the main body of active knowledge exploration. The role of the teacher also changes from the traditional knowledge transmitter to a guide, organizer, and facilitator, creating a suitable inquiry situation for students, providing rich inquiry resources, guiding students to ask questions,

formulating an inquiry plan, carrying out experiments or practical activities, collecting and analyzing data, drawing conclusions, and carrying out exchanges and reflections. Through this process, students can cultivate critical thinking, problem-solving, and innovative skills, construct knowledge themselves, gain a deep understanding of the connotations and formation of knowledge, and lay a solid foundation for lifelong learning and adaptation to future societal development.

The questionnaire results showed that inquiry-based teaching methods significantly enhanced students' practical skills. The specific performance is shown in the table: The experimental group demonstrated better mastery of practical skills than the control group. Students in the experimental group generally exceeded expectations, had no problems or deficiencies, and were very satisfied with the lesson plan, which was relatively consistent in its approach. In contrast, students in the control group also met expectations but had only minor problems or deficiencies, and the lesson plans were very consistent.

Part 1. To answer research question 1: Is there a statistically significant difference between inquiry-based teaching methods and traditional teaching methods in enhancing students' practical abilities?

Table 4.1 Experimental Group Table

No.	Questions	Level	
		M	S.D.
1. Creating Situations			
(1)	Creating situations helped me to establish goals and motivation for learning rehabilitation therapy technology.	4.40	0.77
(2)	Creating situations has enabled me to gain a deeper understanding of the challenges that may arise during the rehabilitation process.	4.27	0.78
(3)	Creating situations has helped me better visualize the practical aspects of	4.23	0.82

No.	Questions	Level	
		M	S.D.
	rehabilitation therapy.		
(4)	Creating situations has stimulated my interest in learning rehabilitation technology.	4.25	0.85
(5)	Creating situations has increased my motivation to participate in class discussions and activities.	4.29	0.75
2. Open Classrooms			
(1)	The open classrooms allowed me to learn at my own pace.	4.42	0.67
(2)	I was able to freely choose the topics I was interested in in the open classrooms.	4.37	0.68
(3)	The open classrooms provide a variety of learning materials and activities.	4.31	0.82
(4)	The open classrooms encourage communication and cooperation among students.	4.35	0.74
(5)	The open classrooms provide opportunities to apply theoretical knowledge to practical situations.	4.35	0.74
3. Cooperative Inquiry			
(1)	Cooperative inquiry has enabled me to develop a deeper understanding of the concepts of rehabilitation therapy technology.	4.21	0.88
(2)	Teamwork has improved my understanding of the diversity of rehabilitation therapy technology.	4.29	0.72
(3)	Cooperative inquiry allowed me to explore different papers and techniques in rehabilitation therapy.	4.21	0.86
(4)	Cooperative inquiry prompted me to think critically about various aspects of rehabilitation therapy.	4.19	0.92
(5)	Cooperative inquiry has helped me to improve my communication and collaboration abilities.	4.25	0.85

No.	Questions	Level	
		M	S.D.
4. Practical Application			
(1)	I believe that applying theoretical knowledge to practice is essential to learning rehabilitation therapy technology.	4.19	0.89
(2)	I have had the opportunity to explore and experiment with different therapeutic strategies in practice.	4.15	0.86
(3)	I have had the opportunity to reflect and self-evaluate in my practical sessions.	4.23	0.86
(4)	I have a better understanding of the complexities and challenges of rehabilitation through practical applications	4.31	0.81
(5)	I think I have improved my practical operation ability.	4.25	0.92
M		4.31	0.08
S.D.		0.83	0.08

1. Creating Situations: the mean ranges from 4.23 to 4.40, and the standard deviation ranges from 0.75 to 0.85. This suggests that students are generally satisfied with the contextualization sessions, though satisfaction levels fluctuate.

2. Open Classrooms: the mean ranged from 4.31 to 4.42, and the standard deviation ranged from 0.67 to 0.82. The satisfaction level of the Open Classrooms session is high and relatively stable.

3. Cooperative Inquiry: mean values ranged from 4.19 to 4.29, with standard deviations between 0.72 and 0.92. Satisfaction in the Cooperative Inquiry session is also high, but there is some dispersion.

4. Practical Application: the mean ranged from 4.15 to 4.31, with a standard deviation between 0.81 and 0.92. Satisfaction with the Practical Application session was high, but the standard deviation was significant, suggesting wide variation in students' experiences.

The overall mean was 4.31, and the overall standard deviation was 0.83. This suggests that there was strong overall support for these inquiry-based teaching methods, though individual differences were also evident.

Table 4.2 Control Group

No.	Questions	Level	
		M	S.D.
1. Creating Situations			
(1)	Creating situations helped me to establish goals and motivation for learning rehabilitation therapy technology.	3.13	1.56
(2)	Creating situations has enabled me to gain a deeper understanding of the challenges that may arise during the rehabilitation process.	2.98	0.96
(3)	Creating situations has helped me better visualize the practical aspects of rehabilitation therapy.	3.25	1.18
(4)	Creating situations has stimulated my interest in learning rehabilitation technology.	3.03	1.52
(5)	Creating situations has increased my motivation to participate in class discussions and activities.	3.81	1.05
2. Open Classrooms			
(1)	The open classrooms allowed me to learn at my own pace.	3.17	1.12
(2)	I was able to freely choose the topics I was interested in in the open classrooms.	3.03	1.24
(3)	The open classrooms provide a variety of learning materials and activities.	3.37	1.06
(4)	The open classrooms encourage communication and cooperation among students.	3.19	1.13
(5)	The open classrooms provide opportunities to apply theoretical knowledge to practical situations.	3.31	1.29
3. Cooperative Inquiry			
(1)	Cooperative inquiry has enabled me to develop a deeper understanding of the	3.65	1.22

No.	Questions	Level	
		M	S.D.
	concepts of rehabilitation therapy technology.		
(2)	Teamwork has improved my understanding of the diversity of rehabilitation therapy technology.	3.31	1.04
(3)	Cooperative inquiry allowed me to explore different papers and techniques in rehabilitation therapy.	3.02	1.26
(4)	Cooperative inquiry prompted me to think critically about various aspects of rehabilitation therapy.	3.09	1.48
(5)	Cooperative inquiry has helped me to improve my communication and collaboration abilities.	3.65	1.13
4. Practical Application			
(1)	I believe that applying theoretical knowledge to practice is essential to learning rehabilitation therapy technology.	2.88	1.21
(2)	I have had the opportunity to explore and experiment with different therapeutic strategies in practice.	3.08	1.29
(3)	I have had the opportunity to reflect and self-evaluate in my practical sessions.	3.46	1.27
(4)	I have a better understanding of the complexities and challenges of rehabilitation through practical applications	3.60	1.26
(5)	I think I have improved my practical operation ability.	3.29	1.30
M		3.33	1.23
S.D.		0.33	0.13

1. Creating Situations: The mean ranges from 2.98 to 3.81, and the standard deviation ranges from 0.96 to 1.56. This indicates that students' support for contextualized courses is low and fluctuates.

2. Open Classrooms: The mean ranges from 3.03 to 3.37, and the standard

deviation ranges from 1.06 to 1.29. Support for open classroom programs is low and unstable.

3. Cooperative Inquiry: mean values ranged from 3.02 to 3.65, and standard deviations ranged from 1.04 to 1.48. Support for collaborative inquiry meetings is low, and there is significant dispersion.

4. Practical Application: The mean ranges from 2.88 to 3.60, and the standard deviation ranges from 1.21 to 1.30. The lower level of support and higher standard deviation of the practical application courses indicate a wide variation in students' experiences with practical application.

The overall mean was 3.33, and the overall standard deviation was 1.23, indicating that students were hesitant about the traditional teaching methods used in these processes.

By comparing the results of the experimental and control groups, Inquiry-based teaching methods can significantly improve the practical abilities of rehabilitation therapy technology students.

Table 4.3 The Results of the Difference Between Inquiry-based Teaching Methods and Traditional Teaching

	Inquiry-based Teaching Methods	Traditional Teaching Methods	Difference
M	4.31	3.33	0.98
S.D.	0.83	0.33	0.50

Part 2. To answer research question 2: How do inquiry-based teaching methods enhance students' practical abilities in rehabilitation therapy technology?

The results presented in Table 4-3 are as follows:

The experimental group demonstrated significantly higher scores compared to the control group across all observed aspects.

Table 4.3 The Score Results

The Experimental Group		
1	M	83.20
2	σ	97.80
3	S.D.	9.89

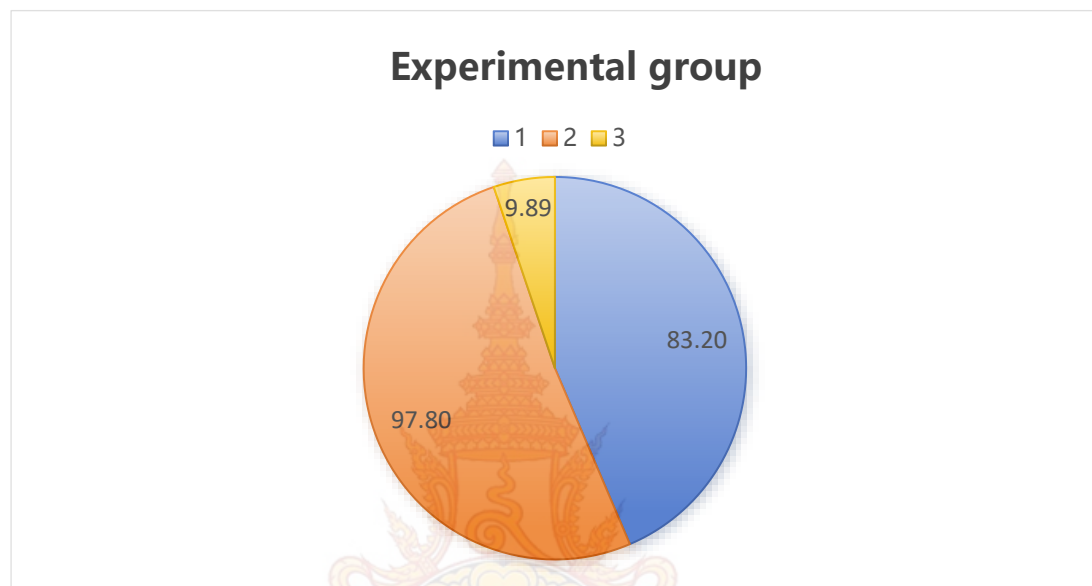


Figure 4.1 Score of the Experimental Group

Table 4.4 The Score of the Control Group

The Control Group		
1	M	65.06
2	σ	109.65
3	S.D.	10.47

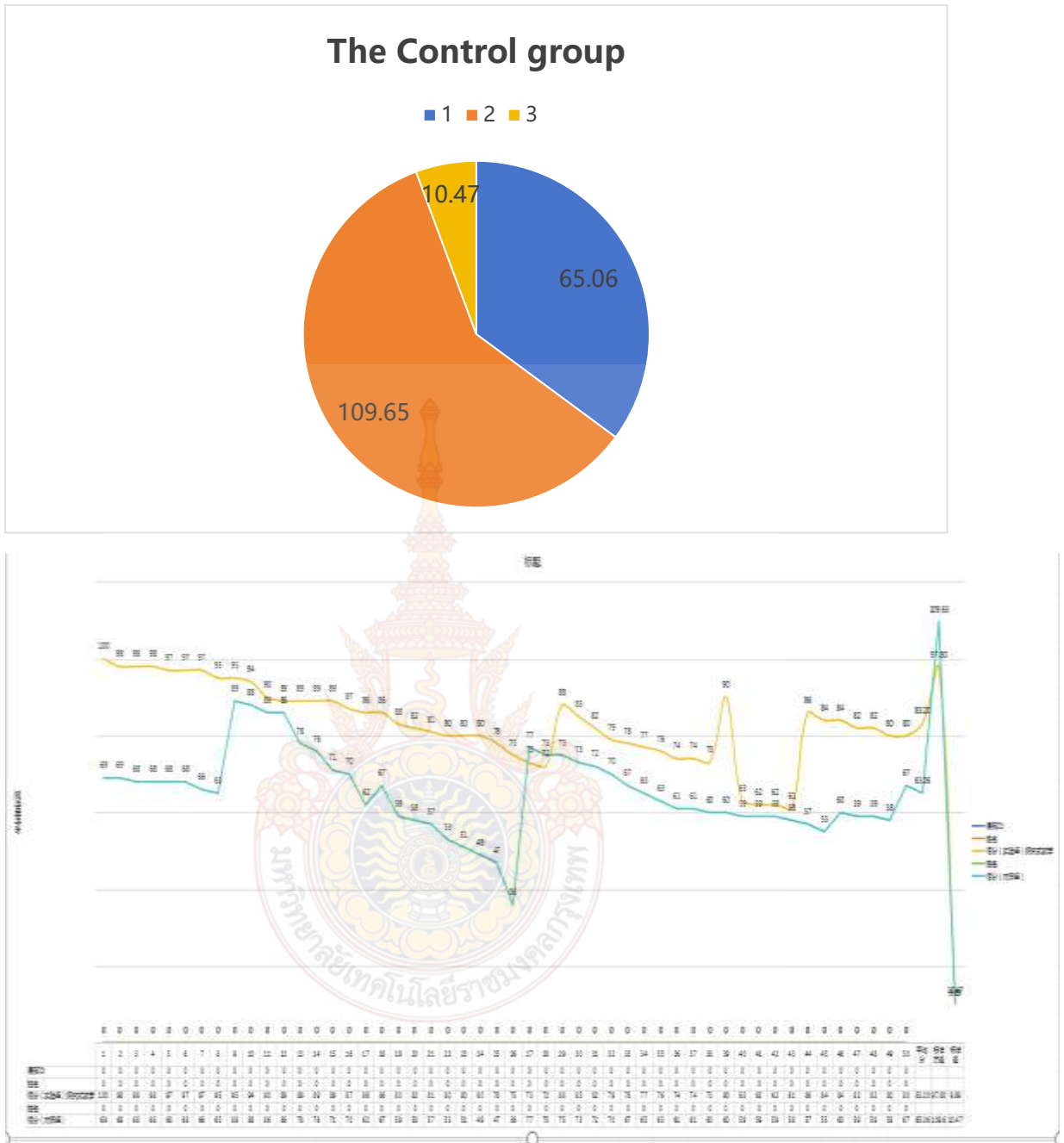


Figure 4.2 Score of the Control Group

From Table 4.3, the score results show that:

1. Sample size: 50 sample data for each of the control and experimental groups.
2. Course ID: both 221822684.0, indicating a comparative analysis of

grades for two different teaching methods (inquiry-based teaching methods and traditional teaching methods) for the same course.

Average Score

1. Mean score of experimental group: 83.2
2. Mean score of control group: 65.06
3. Difference: The mean score of the experimental group is 18.14 points higher than that of the control group, indicating that, overall, students in the experimental group, who used inquiry-based teaching methods, performed significantly better than those in the control group, who used traditional teaching methods, in this course.

Standard deviation

1. Standard deviation of the experimental group: 9.89
2. Standard deviation of the experimental group: 9.89. Standard deviations of the control group: 10.47
3. ANALYSIS: Standard deviation is a measure of the degree of dispersion in a data set. The control group's standard deviation is slightly higher than that of the experimental group, indicating that its grade distribution is more dispersed. In contrast, the distribution of the experimental group's grades is relatively more concentrated.

By comparing the results of the experimental and control groups, it is evident that inquiry-based teaching methods enhance students' practical abilities by creating engaging situations, open classrooms, and promoting cooperative inquiry, thereby fostering the practical application of knowledge.

Part 3 To answer research question 3: What are students' perceptions towards inquiry-based teaching methods in improving their practical abilities?

Table 4.4 Experimental Group Satisfaction Evaluation

No.	Questions	Level	
		M	S.D.
1. Self-directed learning ability			
(1)	I believe inquiry-based teaching methods can effectively enhance your independent learning abilities.	4.12	0.97
(2)	I learned to find information and solve problems independently through inquiry-based teaching methods.	4.06	1.01
(3)	I think inquiry-based teaching methods can improve my interest and motivation in learning rehabilitation therapy technology.	4.06	1.04
(4)	I believe inquiry-based teaching methods can enhance the motivation for learning rehabilitation therapy technology.	4.12	0.99
2. Practical operation ability			
(1)	I am satisfied with my participation and motivation in practical activities.	4.56	0.79
(2)	I am satisfied with the operational ability I demonstrated in the hands-on activities.	4.56	0.57
(3)	I am more satisfied with my proficiency in applying skills in practical activities.	4.22	0.92
(4)	I am more satisfied that I can effectively apply theoretical knowledge in practical activities.	4.46	0.68
(5)	I can gain experience through practical activities, which is more satisfying.	4.34	0.81
3. Cooperation and communication ability			
(1)	I am satisfied with the inclusion of teamwork and group discussion in my practicum activities.	4.24	0.79
(2)	I am satisfied with the inclusion of teamwork and group discussions in my practicum activities, as they have helped improve my cooperation and communication skills.	4.44	0.68
(3)	I am satisfied with my performance in teamwork and group discussions.	4.18	0.93

No.	Questions	Level	
		M	S.D.
(4)	I am confident in my ability to express myself clearly in team settings and group discussions.	4.30	0.85
(5)	I think I am satisfied with my ability to listen in teamwork and group discussions.	4.32	0.73
4. Problem-solving ability			
(1)	I am satisfied with my ability to express my ideas and solutions fully in discussions or interviews.	4.98	1.28
(2)	I am satisfied with the problem-solving in my practical.	4.42	0.67
(3)	I am satisfied with my ability to identify problems and needs quickly in the practice of rehabilitation therapy.	4.20	0.91
(4)	I am confident that I can effectively combine theoretical knowledge and practical experience to design effective solutions.	4.34	0.95
(5)	I am confident that I understand the importance of identifying problems in order to provide effective treatment.	4.46	0.65
M		4.30	0.22
S.D.		0.87	0.16

1. Self-directed learning ability: Mean values ranged from 4.06 to 4.12, and standard deviations ranged from 0.97 to 1.04. Students generally believe that inquiry-based teaching methods are effective in improving independent learning ability and are more consistent in their satisfaction.

2. Practical operation ability: The mean values ranged from 4.22 to 4.56, and the standard deviations ranged from 0.57 to 0.92. Students' satisfaction with Practical operation ability is high and more consistent.

3. Cooperation and communication ability: The mean values ranged from 4.18 to 4.44, with standard deviations ranging from 0.68 to 0.93. Students' satisfaction

with cooperation and communication ability is high and more consistent.

4. Problem-solving ability: The mean values ranged from 4.20 to 4.98, with standard deviations ranging from 0.65 to 1.28. Students' satisfaction with problem-solving skills is high, but the standard deviation is significant, indicating some variation.

Table 4.5 Control Group Satisfaction Evaluation

No.	Questions	Level	
		M	S.D.
1. Self-directed learning ability			
(1)	I believe traditional teaching methods can effectively enhance your independent learning abilities.	2.58	1.28
(2)	I learned to find information and solve problems independently through traditional teaching methods.	3.06	1.18
(3)	I think traditional teaching methods can improve my interest and motivation in learning rehabilitation therapy technology.	2.64	1.34
(4)	I believe traditional teaching methods can enhance the motivation for learning rehabilitation therapy technology.	2.78	1.36
2. Practical operation ability			
(1)	I am satisfied with my participation and motivation in practical activities.	2.82	1.33
(2)	I am satisfied with the operational ability I demonstrated in the hands-on activities.	2.68	1.48
(3)	I am more satisfied with my proficiency in applying skills in practical activities.	2.68	1.48
(4)	I am more satisfied that I can effectively apply theoretical knowledge in practical activities.	2.88	1.39
(5)	I can gain experience through practical activities, which is more satisfying.	2.88	1.42
3. Cooperation and communication ability			
(1)	I am satisfied with the inclusion of teamwork and group discussion in my practicum activities.	2.90	1.12

No.	Questions	Level	
		M	S.D.
(2)	I am satisfied with the inclusion of teamwork and group discussions in my practicum activities, as they have helped improve my cooperation and communication skills.	2.64	1.19
(3)	I am satisfied with my performance in teamwork and group discussions.	2.84	1.21
(4)	I am confident in my ability to express myself clearly in team settings and group discussions.	2.38	1.17
(5)	I think I am satisfied with my ability to listen in teamwork and group discussions.	2.46	1.05
4. Problem-solving ability			
(1)	I am satisfied with my ability to express my ideas and solutions fully in discussions or interviews.	2.78	1.20
(2)	I am satisfied with the problem-solving in my practical.	2.90	1.35
(3)	I am satisfied with my ability to identify problems and needs quickly in the practice of rehabilitation therapy.	2.84	1.25
(4)	I am confident that I can effectively combine theoretical knowledge and practical experience to design effective solutions.	2.70	1.22
(5)	I am confident that I understand the importance of identifying problems in order to provide effective treatment.	2.84	1.36
M		2.84	0.16
S.D.		1.26	0.12

1. Self-directed learning ability: Mean values ranged from 2.58 to 2.78, and standard deviations ranged from 1.17 to 1.36. Students' satisfaction with traditional teaching methods for improving their independent learning ability is low and varies widely.

2. Practical operation ability: The mean values ranged from 2.68 to 2.88, and the standard deviations ranged from 1.33 to 1.48. Students' satisfaction with practical operation ability is low and varies widely.

3. Cooperation and communication ability: The mean values ranged from 2.38 to 2.90, and the standard deviations ranged from 1.05 to 1.21. Students' satisfaction with cooperation and communication ability is low and varies widely.

4. Problem-solving ability: Mean values ranged from 2.70 to 2.90, with standard deviations ranging from 1.20 to 1.36. Students' satisfaction with problem-solving ability is low and varies widely.

By comparing the results of the experimental and control groups, Students are more satisfied with inquiry-based teaching methods for improving their practical abilities.

Table 4.7 The Experimental and Control Group Satisfaction Evaluation

	Inquiry-based Teaching Methods	Traditional Teaching Methods	Difference
M	4.30	2.84	1.46
S.D.	0.87	1.26	0.39

CHAPTER V

CONCLUSION AND DISCUSSION

5.1 Conclusion

Part 1 to answer the research question no. 1

Comprehensive Analysis:

Comparison of means: the overall mean of Table 1 is 4.31, while the overall mean of Table 2 is 3.33. This indicates that students in the experimental group were significantly more supportive of the teaching methods than students in the control group.

Standard Deviation Comparison: The overall standard deviation in Table 1 is 0.83, and in Table 2 it is 1.23, indicating that student support was more centralized in the experimental group and more diffuse in the control group.

Conclusion:

1. The experimental group students were more supportive of the teaching sessions, and their support was more centralized, indicating that inquiry-based teaching methods were more effective in the Experimental group and that students' experiences were more consistent (Wang, 2005a; Li, 2017; Ma, 2013).

2. The control group of students was less supportive and more dispersed in the teaching process, suggesting that traditional teaching methods were less effective in the control group and that the students' experiences were more diverse.

Part 2 to answer the research question No. 2

Distribution of Achievement

1. High scores (90 and above):

(1) There were 8 students in the experimental group, accounting for 16%.

(2) There were no students in the control group who scored 90 or above.

(3) This shows that the number of students in the experimental group is significantly higher than that of the control group and that the inquiry-based teaching methods help to cultivate students with better grades.

2. Middle band (70 - 89 points):

(1) The experimental group had 30 students (60%).

(2) The control group consisted of 24 students (48%).

(3) The fact that the experimental group had a higher percentage of students in the middle band than the control group indicates that the inquiry-based teaching methods enabled more students to reach the middle band and above.

3. Low score band (below 70 points):

(1) There were 12 students in the experimental group, accounting for 24%.

(2) The control group consisted of 26 students (52%).

(3) The number of low-scoring students in the control group is more than twice that of the experimental group, which means that more students have unsatisfactory scores under the traditional teaching methods. In contrast, inquiry-based teaching methods can effectively reduce the proportion of students scoring low.

Individual differences

1. Positive difference: most students' scores in the experimental group were higher than those in the control group, with difference values ranging from 3 to 39 points, with a higher concentration of students with differences around 20 to 30 points, which further confirms the significant effect of the inquiry-based teaching methods in enhancing students' performance.

2. Negative difference: there are 2 students whose scores in the experimental group are lower than those in the control group, namely, sequence number 27, scoring 73 points in the experimental group and 77 points in the control group, with a difference of -4 points; sequence number 28, scoring 72 points in the experimental group and 75 points in the control group, with a difference of -3 points. Individual

differences may contribute to this situation, and further analysis of the specific circumstances of these two students, such as their study habits, learning abilities, adaptability to different teaching methods, and other relevant factors, is necessary to explore the reasons for such differences.

Overall Conclusion:

The inquiry-based teaching method has achieved better teaching results in this course, and compared with the traditional teaching methods, it can significantly improve students' average grades, increase the number of students in the high-grade band, reduce the proportion of students in the low-grade band, and make the distribution of students' grades more concentrated in the middle and high-grade bands.

Part 3 to answer the research question no. 3

1. Table 4.4 Experimental group Satisfaction Evaluation:

Mean of the overall mean: 4.30

The standard deviation of the overall mean is 0.22

Mean of overall standard deviation: 0.87

The standard deviation of the overall standard deviation: 0.16

The results show that students' satisfaction with inquiry-based teaching sessions is high, with a mean value of 4.30, indicating that students are generally satisfied with this teaching method. The standard deviation is slight, indicating that students' satisfaction is more consistent and does not vary much.

2. Table 4-5 Control Group Satisfaction Evaluation:

Mean of the overall mean: 2.84

The standard deviation of the overall mean is 0.16

Mean of overall standard deviation: 1.26

The standard deviation of the overall standard deviation: 0.12

The results show that students are less satisfied with traditional teaching sessions, with a mean of only 2.84, indicating that they are generally dissatisfied with

these methods. The large standard deviation indicates a significant variation in the students' satisfaction levels.

Conclusion:

1. Experimental group: Students' satisfaction with inquiry-based teaching methods is high, indicating that these methods are effective in improving students' independent learning abilities, practical skills, cooperation and communication skills, and problem-solving abilities.

2. Control group: Students' satisfaction with traditional teaching methods is low, suggesting that these methods may require further optimization in practical application to enhance student participation and satisfaction.

5.2 Discussion

Part 1 to answer the research question no. 1

Students in the control group had a lower inclination towards traditional teaching methods, a more dispersed grade distribution, and a higher proportion of students scoring low. This suggests that traditional teaching methods are insufficient in enhancing students' practical skills and require improvement (Li, 2017). Traditional teaching methods primarily achieve the teaching goal through the teacher's explanation, demonstration, and students' practice. The teacher plays a central role in the entire process, and students often passively accept knowledge rather than actively engage in thought. In inquiry-based teaching methods, students are the primary focus throughout the entire teaching process. Students, the teacher presents the problem to analyze, discuss, and clarify the general knowledge involved. In the process of completing the task, with the teacher's appropriate guidance, help to solve the problem, and finally summarizing the experience, to achieve mastery of the knowledge learned. During the implementation process, the vast majority of students believe that this teaching method

can stimulate learning interest and that its teaching effect is better than that of the traditional teaching method.

Therefore, educators should actively learn from and apply new teaching methods (inquiry-based teaching) and continuously improve traditional teaching methods to enhance teaching effectiveness and students' learning experience.

The explanation is as follows:

1. Increase interaction and participation: Enhance classroom questions, group discussions, and interactive sessions to encourage students to engage actively in classroom activities, thereby improving their motivation and interest in learning. Provide more opportunities for practical application so that students can deepen their understanding and apply theoretical knowledge in real-world settings.

2. Personalized learning support: Develop personalized learning plans for students and provide targeted guidance and support based on students' learning progress and abilities.

3. Teacher training: Provide teachers with training in inquiry-based teaching methods to enhance their teaching ability and diversity of teaching methods, regular evaluation of teaching effectiveness and adjustment of teaching methods and content based on student feedback (Wang & Lu, 2013a).

Part 2 to answer the research question no. 2

Students in the experimental group demonstrated higher teaching effectiveness and a more equitable distribution of grades under inquiry-based teaching methods; however, some students still showed negative differences. Inquiry-based teaching methods is an effective teaching method in line with the laws of education and close to the reality of life through the creation of situations, questions, open classrooms, cultivating the spirit of cooperation, and other aspects of the strategy (Wang & Lu, 2013) which effectively improves the students' enthusiasm for learning and the ability to explore independently, and at the same time promotes the development of the students'

core literacy and practical abilities. This indicates that although the inquiry-based teaching method is effective, there is still room for improvement.

The explanation is as follows:

1. Reinforcement of context creation: Create contexts that are closer to actual work scenarios to enhance students' sense of immersion and learning motivation. Provide a variety of contexts that cover different rehabilitation techniques and application scenarios to help students fully understand the material.

2. Optimize the open classroom: Provide more independent learning resources and tools to help students better manage their learning progress (Wang & Lu, 2013a). Increase students' choices in the open classroom and provide a broader range of learning materials and activities to meet the needs of different students.

3. Deepen cooperative inquiry: Optimize the organization of group work to ensure that every student can actively participate and improve the effectiveness of cooperation. Encourage students to collaborate with peers from other disciplines to broaden their horizons and enhance their comprehensive skills.

4. Enhance practical application: Design more practical projects that allow students to apply what they have learned and solve real-world problems in authentic environments. Guide students to reflect and self-assess, helping them summarize their experiences and enhance their practical skills.

Part 3 to answer the research question no. 3

Students in the control group were less satisfied with traditional teaching methods, indicating that these methods may be inadequate in enhancing student engagement and satisfaction. The inquiry-based teaching methods have demonstrated positive teaching effects and high student satisfaction in the teaching of practical competence in rehabilitation therapy technology. Studies have shown that the PBL+CBL dual-track teaching method, grounded in the International Classification of Functioning, Disability, and Health (ICF) framework, can significantly improve

students' clinical thinking, active learning, and practical skills. In terms of teaching satisfaction, students demonstrated high evaluations of the necessity of the teaching method and overall satisfaction, particularly in clinical thinking, problem-solving, and communication and teamwork skills (Wang, 2005a).

Additionally, the application of the integrated blended teaching method in the Clinical Rehabilitation Laboratory course yielded significant teaching results. Inquiry-based teaching methods in the teaching of practical abilities in rehabilitation therapy technology not only improve students' professional abilities and theoretical knowledge but also enhance students' satisfaction and participation in the learning process (Li, 2017).

The explanation is as follows:

1. Enhance the interactivity of teaching: Increase classroom questions, group discussions, and interactive sessions to encourage students to participate actively in classroom activities, thereby enhancing their motivation and interest in learning. Provide more opportunities for hands-on practice so students can deepen their understanding and apply theoretical knowledge effectively.

2. Provide personalized learning support: Develop personalized learning plans for students and offer targeted guidance and support tailored to their learning progress and abilities. Individual counseling is provided regularly to offer timely feedback on students' learning progress and to assist them in resolving learning difficulties.

3. Teacher training and assessment: Teachers are trained in inquiry-based teaching methods to enhance their teaching skills and the diversity of instructional approaches. Regularly evaluate the teaching effect and adjust teaching methods and content based on students' feedback to ensure their effectiveness and adaptability (Wang & Lu, 2013a).

Through these countermeasures, traditional and inquiry-based teaching

methods can be further optimized to enhance students' practical abilities and improve their satisfaction with the methods.



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APPENDICES

Lesson Plan Questionnaire Answer RQ.1

Table 3.6.1 Questionnaire

No.	Questions	Level					Remark
		5	4	3	2	1	
1. Creating Situations							
(1)	Creating situations helped me to establish goals and motivation for learning rehabilitation therapy technology.						
(2)	Creating situations has enabled me to gain a deeper understanding of the challenges that may arise during the rehabilitation process.						
(3)	Creating situations has helped me better visualize the practical aspects of rehabilitation therapy.						
(4)	Creating situations has stimulated my interest in learning rehabilitation technology.						
(5)	Creating situations has increased my motivation to participate in class discussions and activities.						
2. Open Classrooms							
(1)	The open classrooms allowed me to learn at my own pace.						
(2)	I was able to freely choose the topics I was interested in in the open classrooms.						
(3)	The open classrooms provide a variety of learning materials and activities.						
(4)	The open classrooms encourage communication and cooperation among students.						
(5)	The open classrooms provide opportunities to apply theoretical knowledge to practical situations.						
3. Cooperative Inquiry							
(1)	Cooperative inquiry has enabled me to						

No.	Questions	Level					Remark
		5	4	3	2	1	
	develop a deeper understanding of the concepts of rehabilitation therapy technology.						
(2)	Teamwork has improved my understanding of the diversity of rehabilitation therapy technology.						
(3)	Cooperative inquiry allowed me to explore different papers and techniques in rehabilitation therapy.						
(4)	Cooperative inquiry prompted me to think critically about various aspects of rehabilitation therapy.						
(5)	Cooperative inquiry has helped me to improve my communication and collaboration abilities.						
4. Practical Application							
(1)	I believe that applying theoretical knowledge to practice is essential to learning rehabilitation therapy technology.						
(2)	I have had the opportunity to explore and experiment with different therapeutic strategies in practice.						
(3)	I have had the opportunity to reflect and self-evaluate in my practical sessions.						
(4)	I have a better understanding of the complexities and challenges of rehabilitation through practical applications.						
(5)	I think I have improved my practical operation ability.						

Table 3.6.2 Questionnaire

No.	Content	The Index of Item-Objective Congruence		
		+1	0	-1
1. Creating Situations				
(1)	Creating situations helped me to establish goals and motivation for learning rehabilitation therapy technology.			
(2)	Creating situations has enabled me to gain a deeper understanding of the challenges that may arise during the rehabilitation process.			
(3)	Creating situations has helped me better visualize the practical aspects of rehabilitation therapy.			
(4)	Creating situations has stimulated my interest in learning rehabilitation technology.			
(5)	Creating situations has increased my motivation to participate in class discussions and activities.			
2. Open Classrooms				
(1)	The open classrooms allowed me to learn at my own pace.			
(2)	I was able to freely choose the topics I was interested in in the open classrooms.			
(3)	The open classrooms provide a variety of learning materials and activities.			
(4)	The open classrooms encourage communication and cooperation among students.			
(5)	The open classrooms provide opportunities to apply theoretical knowledge to practical situations.			

No.	Content	The Index of Item-Objective Congruence		
		+1	0	-1
3. Cooperative Inquiry				
(1)	Cooperative inquiry has enabled me to develop a deeper understanding of the concepts of rehabilitation therapy technology.			
(2)	Teamwork has improved my understanding of the diversity of rehabilitation therapy technology.			
(3)	Cooperative inquiry allowed me to explore different methodologies and technologies in rehabilitation therapy.			
(4)	Cooperative inquiry prompted me to think critically about various aspects of rehabilitation therapy.			
(5)	Cooperative inquiry has helped me to improve my communication and collaboration abilities.			
4. Practical Application				
(1)	I believe that applying theoretical knowledge to practice is essential to learning rehabilitation therapy technology.			
(2)	I have had the opportunity to explore and experiment with different therapeutic strategies in practice.			
(3)	I have had the opportunity to reflect and self-evaluate in my practical sessions.			
(4)	I have a better understanding of the complexities and challenges of rehabilitation through practical applications.			
(5)	I think I have improved my practical operation ability.			

Paper test for answer RQ.2

The test for reading topic and choose the correct answer: a, b, c, or d.

1. What is the primary purpose of pain assessment?
 - A. Identify the specific location of the pain
 - B. Assess the intensity and nature of the pain
 - C. Diagnose the cause of the pain
 - D. Treat the pain

2. Which of the following scales is used to assess pain intensity in patients with chronic pain?
 - A. Visual Analog Scale (VAS)
 - B. McGill Pain Questionnaire (MPQ)
 - C. Owelty Disability Index (ODI)
 - D. Hospital Anxiety and Depression Scale (HADS)

3. Which area does the McGill Pain Questionnaire (MPQ) primarily assess?
 - A. intensity of pain
 - B. quality of pain
 - C. impact of pain on daily life
 - D. duration of the pain

4. Which of the following is NOT a standard method of pain assessment?
 - A. Numerical Rating Scale (NRS)
 - B. Verbal Rating Scale (VRS)
 - C. Functional Rating Scale (FRS)
 - D. Body Mass Index (BMI)

5. What does the term "Breakthrough Pain" in the Pain Rating Scale refer to? A. A
sudden increase in chronic pain
 - B. Recurrence of pain after treatment
 - C. persistence of acute pain
 - D. persistence of chronic pain

6. Which of the following is NOT an element of assessment in pain ratings?
 - A. nature of the pain
 - B. duration of the pain episode
 - C. pain-relieving factors
 - D. the patient's cholesterol level

7. What is the primary purpose of a functional assessment of muscle strength?
 - A. to assess the patient's pain level
 - B. to determine the patient's range of motion
 - C. assess muscle strength and endurance
 - D. assess the patient's balance

8. Which of the following scales is NOT used for muscle strength assessment?
 - A. Medical Research Council (MRC) scale
 - B. Handgrip Dynamometer scale
 - C. 6-minute walk test
 - D. Isokinetic Dynamometry Scale

9. Which of the following is not usually included in a functional assessment of muscle strength?
 - A. Muscle contraction velocity
 - B. Maximum muscle force
 - C. muscle endurance
 - D. muscle coordination

10. What does grade 6 represent in the muscle strength scale proposed by "Goodman" and "Lang" in muscle strength assessment?
 - A. completely normal strength
 - B. Mild hypokinesia
 - C. moderate hypokinesia
 - D. severe hypokinesia

11. Which of the following tests assesses a patient's lower extremity muscle strength?
 - A. grip test
 - B. 30-second chair stand test
 - C. shoulder flexion test
 - D. elbow extension test

12. What can the results of a functional assessment of muscle strength be used for in rehabilitation?
 - A. determine the patient's pain level
 - B. to develop an individualized rehabilitation program
 - C. assess the patient's balance
 - D. determine the patient's ability to perform activities of daily living

13. The Balance Function Assessment is primarily used to assess which of the following abilities?
- A. muscle strength
 - B. body balance
 - C. cardiorespiratory endurance
 - D. cognitive function
14. What is the maximum score on the Berg Balance Scale (BBS)?
- A. 20 points
 - B. 30 points
 - C. 40 points
 - D. 50 points
15. Which of the following is not a commonly used tool for assessing balanced functioning?
- A. Tinetti Balance Test
 - B. Functional Gait Assessment (FGA)
 - C. 6-minute walk test
 - D. One Leg Stand Test
16. Which of the following is NOT an indicator for assessing static balance in a balance function assessment?
- A. one-legged standing time
 - B. stability of the center of gravity
 - C. stability of standing with feet together
 - D. gait stability while walking
17. Dynamic balance usually involves which of the following activities?
- A. sitting still
 - B. standing still
 - C. walking and turning
 - D. standing with eyes closed
18. Which of the following is NOT a consideration in developing an individualized rehabilitation plan based on the results of a balance function assessment?
- A. the patient's age and health status
 - B. specific deficits in balance function
 - C. patient's personal preference
 - D. the patient's cultural background

19. The Coordinated Function Rating is primarily used to assess which of the following abilities?
- A. muscle strength
 - B. muscle endurance
 - C. muscle coordination
 - D. muscle flexibility
20. Which of the following is NOT a commonly used clinical test in the assessment of coordination function?
- A. finger-nose test
 - B. wheel-arm test
 - C. grip test
 - D. heel-knee-shin test
21. Which of the following is NOT a commonly used tool for assessing coordination function?
- A. rhythm machine
 - B. balance cushion
 - C. kinesiometer
 - D. vibration plate
22. What does "dysdiadochokinesia" refer to in the assessment of coordination?
- A. rapid alternating movement disorder
 - B. Fine-motor impairment
 - C. balance disorders
 - D. decreased muscle strength
23. Which of the following is NOT a common type of coordination disorder in the assessment of coordination function?
- A. intentional tremor
 - B. postural tremor
 - C. intentional dyskinesia
 - D. hypokinesia
24. The results of a coordination function assessment can be used for which of the following purposes?
- A. determine the patient's pain level
 - B. develop an individualized rehabilitation program
 - C. assess the patient's ability to perform activities of daily living
 - D. determine the patient's range of motion

25. What is the highest level of the Holden Walkability Rating?
- A. level 3
 - B. level 4
 - C. grade 5
 - D. level 6
26. The 6-minute walk test (6MWT) is primarily used to assess exercise capacity in which of the following groups of patients?
- A. muscle strength
 - B. cardiopulmonary function
 - C. balance
 - D. coordination
27. Which of the following is NOT an indicator of test termination when performing a 6-minute walk test?
- A. chest pain
 - B. dyspnea
 - C. muscle contracture
 - D. feeling fatigued
28. Which of the following is NOT a commonly used walking ability scale in the assessment of walking function?
- A. Berg scale
 - B. Tinetti Scale
 - C. Hauser Walking Index
 - D. Fugl-Meyer Balance Scale
29. What does level 3 represent according to the Hoffer Walkability Rating?
- A. nonfunctional, unable to walk
 - B. nonfunctional walking, therapeutic walking
 - C. home-based walking
 - D. walking in the community
30. The results of a functional walking assessment can be used for which of the following purposes?
- A. to develop an individualized rehabilitation training program
 - B. to assess the patient's ability to perform activities of daily living
 - C. determine the patient's range of motion
 - D. all of the above

Table 3.6.3 Paper Test

No.	Content	1	0	-1
1.	What is the primary purpose of pain assessment?			
	A. Identify the specific location of the pain			
	B. Assess the intensity and nature of the pain			
	C. Diagnose the cause of the pain			
	D. treat the pain			
2.	Which of the following scales is used to assess pain intensity in patients with chronic pain?			
	A. Visual Analog Scale (VAS)			
	B. McGill Pain Questionnaire (MPQ)			
	C. Oswestry Disability Index (ODI)			
	D. Hospital Anxiety and Depression Scale (HADS)			
3.	Which area does the McGill Pain Questionnaire (MPQ) primarily assess?			
	A. intensity of pain			
	B. quality of pain			
	C. impact of pain on daily life			
	D. duration of the pain			
4.	Which of the following is NOT a standard method of pain assessment?			
	A. Numerical Rating Scale (NRS)			
	B. Verbal Rating Scale (VRS)			
	C. Functional Rating Scale (FRS)			
	D. Body Mass Index (BMI)			
5.	What does the term "Breakthrough Pain" in the Pain Rating Scale refer to?			
	A. A sudden increase in chronic pain			
	B. Recurrence of pain after treatment			
	C. persistence of acute pain			
	D. persistence of chronic pain			
6.	Which of the following is NOT an element of assessment in pain ratings?			
	A. nature of the pain			
	B. duration of the pain episode			
	C. pain-relieving factors			
	D. the patient's cholesterol level			
7.	What is the primary purpose of a functional			

No.	Content	1	0	-1
	assessment of muscle strength?			
	A. to assess the patient's pain level			
	B. to determine the patient's range of motion			
	C. assess muscle strength and endurance			
	D. assess the patient's balance			
8.	Which of the following scales is NOT used for muscle strength assessment?			
	A. Medical Research Council (MRC) scale			
	B. Handgrip Dynamometer scale			
	C. 6-minute walk test			
	D. Isokinetic Dynamometry Scale			
9.	Which of the following is not usually included in a functional assessment of muscle strength?			
	A. Muscle contraction velocity			
	B. Maximum muscle force			
	C. muscle endurance			
	D. muscle coordination			
10.	What does grade 6 represent in the muscle strength scale proposed by "Goodman" and "Lang" in muscle strength assessment?			
	A. completely normal strength			
	B. Mild hypokinesia			
	C. moderate hypokinesia			
	D. severe hypokinesia			
11.	Which of the following tests assesses a patient's lower extremity muscle strength?			
	A. Grip test			
	B. 30-second chair stand test			
	C. Shoulder flexion test			
	D. elbow extension test			
12.	What can the results of a functional assessment of muscle strength be used for in rehabilitation?			
	A. determine the patient's pain level			
	B. to develop an individualized rehabilitation program			
	C. assess the patient's balance			
	D. determine the patient's ability to perform activities of daily living			

No.	Content	1	0	-1
13.	The Balance Function Assessment is primarily used to assess which of the following abilities?			
	A. muscle strength			
	B. body balance			
	C. cardiorespiratory endurance			
	D. Cognitive function			
14.	What is the maximum score on the Berg Balance Scale (BBS)?			
	A. 20 points			
	B. 30 points			
	C. 40 points			
	D. 50 points			
15.	Which of the following is not a commonly used tool for assessing balanced functioning?			
	A. Tinetti Balance Test			
	B. Functional Gait Assessment (FGA)			
	C. 6-minute walk test			
	D. One Leg Stand Test			
16.	Which of the following is NOT an indicator for assessing static balance in a balance function assessment?			
	A. One-legged standing time			
	B. Stability of the center of gravity			
	C. Stability of standing with feet together			
	D. gait stability while walking			
17.	Dynamic balance usually involves which of the following activities?			
	A. sitting still			
	B. standing still			
	C. walking and turning			
	D. standing with eyes closed			
18.	Which of the following is NOT a consideration in developing an individualized rehabilitation plan based on the results of a balance function assessment?			
	A. the patient's age and health status			
	B. Specific deficits in balance function			
	C. Patient's personal preference			

No.	Content	1	0	-1
	D. the patient's cultural background			
19.	The Coordinated Function Rating is primarily used to assess which of the following abilities?			
	A. muscle strength			
	B. muscle endurance			
	C. muscle coordination			
	D. muscle flexibility			
20.	Which of the following is NOT a commonly used clinical test in the assessment of coordination function?			
	A. Finger-nose test			
	B. wheel-arm test			
	C. Grip test			
	D. heel-knee-shin test			
21.	Which of the following is NOT a commonly used tool for assessing coordination function?			
	A. Rhythm machine			
	B. Balance cushion			
	C. kinesiometer			
	D. vibration plate			
22.	What does "dysdiadochokinesia" refer to in the assessment of coordination?			
	A. rapid alternating movement disorder			
	B. Fine-motor impairment			
	C. balance disorders			
	D. decreased muscle strength			
23.	Which of the following is NOT a common type of coordination disorder in the assessment of coordination function?			
	A. intentional tremor			
	B. postural tremor			
	C. intentional dyskinesia			
	D. hypokinesia			
24.	The results of a coordination function assessment can be used for which of the following purposes?			
	A. determine the patient's pain level			
	B. develop an individualized rehabilitation program			

No.	Content	1	0	-1
	C. assess the patient's ability to perform activities of daily living			
	D. determine the patient's range of motion			
25.	What is the highest level of the Holden Walkability Rating?			
	A. level 3			
	B. level 4			
	C. Grade 5			
	D. Level 6			
26.	The 6-minute walk test (6MWT) is primarily used to assess exercise capacity in which of the following patient groups?			
	A. muscle strength			
	B. cardiopulmonary function			
	C. balance			
	D. Coordination			
27.	Which of the following is NOT an indicator of test termination when performing a 6-minute walk test?			
	A. chest pain			
	B. dyspnea			
	C. muscle contracture			
	D. feeling fatigued			
28.	Which of the following is NOT a commonly used walking ability scale in the assessment of walking function?			
	A. Berg scale			
	B. Tinetti Scale			
	C. Hauser Walking Index			
	D. Fugl-Meyer Balance Scale			
29.	What does level 3 represent according to the Hoffer Walkability Rating?			
	A. nonfunctional, unable to walk			
	B. nonfunctional walking, therapeutic walking			
	C. home-based walking			
	D. walking in the community			
30.	The results of a functional walking assessment can be used for which of the following purposes?			

No.	Content	1	0	-1
	A. to develop an individualized rehabilitation training program			
	B. to assess the patient's ability to perform activities of daily living			
	C. determine the patient's range of motion			
	D. all of the above			

Questionnaire for answer RQ.3

Table 3.6.4 The Satisfaction Questionnaire

No.	Questions	Level					Remark
		5	4	3	2	1	
1. Self-directed learning ability							
(1)	I believe inquiry-based teaching methods can effectively enhance your independent learning abilities.						
(2)	I learned to find information and solve problems independently through inquiry-based teaching methods.						
(3)	I think inquiry-based teaching methods can improve my interest and motivation in learning rehabilitation therapy technology.						
(4)	I believe inquiry-based teaching methods can enhance the motivation for learning rehabilitation therapy technology.						
2. Practical operation ability							
(1)	I am satisfied with my participation and motivation in practical activities.						
(2)	I am satisfied with the operational ability I demonstrated in the hands-on activities.						
(3)	I am more satisfied with my proficiency in applying skills in practical activities.						
(4)	I am more satisfied that I can effectively apply theoretical knowledge in practical activities.						
(5)	I can gain experience through practical						

No.	Questions	Level					Remark
		5	4	3	2	1	
	activities, which is more satisfying.						
3. Cooperation and communication ability							
(1)	I am satisfied with the inclusion of teamwork and group discussion in my practicum activities.						
(2)	I am satisfied with the inclusion of teamwork and group discussions in my practicum activities, as they have helped improve my cooperation and communication skills.						
(3)	I am satisfied with my performance in teamwork and group discussions.						
(4)	I am confident in my ability to express myself clearly in team settings and group discussions.						
(5)	I think I am satisfied with my ability to listen in teamwork and group discussions.						
4. Problem-solving ability							
(1)	I am satisfied with my ability to express my ideas and solutions fully in discussions or interviews.						
(2)	I am satisfied with the problem-solving in my practical.						
(3)	I am satisfied with my ability to identify problems and needs quickly in the practice of rehabilitation therapy.						
(4)	I am confident that I can effectively combine theoretical knowledge and practical experience to design effective solutions.						
(5)	I am confident that I understand the importance of identifying problems in order to provide effective treatment.						

Table 3.6.5 The Satisfaction Questionnaire

No	Questions	Level					Remark
		5	4	3	2	1	
1. Self-directed learning ability							
(1)	I believe traditional teaching methods can effectively enhance your independent learning abilities.						
(2)	I learned to find information and solve problems independently through traditional teaching methods.						
(3)	I think traditional teaching methods can improve my interest and motivation in learning rehabilitation therapy technology.						
(4)	I believe traditional teaching methods can enhance the motivation for learning rehabilitation therapy technology.						
2. Practical operation ability							
(1)	I am satisfied with my participation and motivation in practical activities.						
(2)	I am satisfied with the operational ability I demonstrated in the hands-on activities.						
(3)	I am more satisfied with my proficiency in applying skills in practical activities.						
(4)	I am more satisfied that I can effectively apply theoretical knowledge in practical activities.						
(5)	I can gain experience through practical activities, which is more satisfying.						
3. Cooperation and communication ability							
(1)	I am satisfied with the inclusion of teamwork and group discussion in my practicum activities.						
(2)	I am satisfied with the inclusion of teamwork and group discussions in my practicum activities, as they have helped improve my cooperation and communication skills.						
(3)	I am satisfied with my performance in						

No	Questions	Level					Remark
		5	4	3	2	1	
	teamwork and group discussions.						
(4)	I am confident in my ability to express myself clearly in team settings and group discussions.						
(5)	I think I am satisfied with my ability to listen in teamwork and group discussions.						
4. Problem-solving ability							
(1)	I am satisfied with my ability to express my ideas and solutions fully in discussions or interviews.						
(2)	I am satisfied with the problem-solving in my practical.						
(3)	I am satisfied with my ability to identify problems and needs quickly in the practice of rehabilitation therapy.						
(4)	I am confident that I can effectively combine theoretical knowledge and practical experience to design effective solutions.						
(5)	I am confident that I understand the importance of identifying problems in order to provide effective treatment.						

Table 3.6.6 The Satisfaction Questionnaire

No	Content	The Index of Item-Objective Congruence		
		+1	0	-1
1. Self-directed learning ability				
(1)	I believe inquiry-based teaching methods can effectively enhance your independent learning abilities.			
(2)	I learned to find information and solve problems independently through inquiry-based teaching methods.			
(3)	I think inquiry-based teaching methods can improve my interest and motivation in learning rehabilitation therapy technology.			
(4)	I believe inquiry-based teaching methods can enhance the motivation for learning rehabilitation therapy technology.			
2. Practical operation ability				
(1)	I am satisfied with my participation and motivation in practical activities.			
(2)	I am satisfied with the operational ability I demonstrated in the hands-on activities.			
(3)	I am more satisfied with my proficiency in applying skills in practical activities.			
(4)	I am more satisfied that I can effectively apply theoretical knowledge in practical activities.			
(5)	I can gain experience through practical activities, which is more satisfying.			
3. Cooperation and communication ability				

No	Content	The Index of Item-Objective Congruence		
		+1	0	-1
(1)	I am satisfied with the inclusion of teamwork and group discussion in my practicum activities.			
(2)	I am satisfied with the inclusion of teamwork and group discussions in my practicum activities, as they have helped improve my cooperation and communication skills.			
(3)	I am satisfied with my performance in teamwork and group discussions.			
(4)	I am confident in my ability to express myself clearly in team settings and group discussions.			
(5)	I think I am satisfied with my ability to listen in teamwork and group discussions.			
4. Problem-solving ability				
(1)	I am satisfied with my ability to express my ideas and solutions fully in discussions or interviews.			
(2)	I am satisfied with the problem-solving in my practical.			
(3)	I am satisfied with my ability to identify problems and needs quickly in the practice of rehabilitation therapy.			
(4)	I am confident that I can effectively combine theoretical knowledge and practical experience to design effective solutions.			
(5)	I am confident that I understand the importance of identifying problems in order to provide effective treatment.			

Table 3.6.7 The Satisfaction Questionnaire

No	Content	The Index of Item-Objective Congruence		
		1		1
1. Self-directed learning ability				
(1)	I think traditional teaching methods can effectively improve your independent learning ability.			
(2)	I learned to find information and solve problems independently through traditional teaching methods.			
(3)	I think traditional teaching methods can improve my interest and motivation in learning rehabilitation therapy technology.			
(4)	I believe traditional teaching methods can enhance the motivation for learning rehabilitation therapy technology.			
2. Practical operation ability				
(1)	I am satisfied with my participation and motivation in practical activities.			
(2)	I am satisfied with the operational ability I demonstrated in the hands-on activities.			
(3)	I am more satisfied with my proficiency in applying skills in practical activities.			
(4)	I am more satisfied that I can effectively apply theoretical knowledge in practical activities.			
(5)	I can gain experience through practical activities, which is more satisfying.			
3. Cooperation and communication ability				
(1)	I am satisfied with the inclusion of teamwork and group discussion in my practicum activities.			

No	Content	The Index of Item-Objective Congruence		
		1		1
(2)	I am satisfied with the inclusion of teamwork and group discussions in my practicum activities, as they have helped improve my cooperation and communication skills.			
(3)	I am satisfied with my performance in teamwork and group discussions.			
(4)	I am confident in my ability to express myself clearly in team settings and group discussions.			
(5)	I think I am satisfied with my ability to listen in teamwork and group discussions.			
4. Problem-solving ability				
(1)	I am satisfied with my ability to express my ideas and solutions fully in discussions or interviews.			
(2)	I am satisfied with problem-solving in my practical.			
(3)	I am satisfied with my ability to identify problems quickly and needs in practical rehabilitation therapy.			
(4)	I am confident that I can effectively combine theoretical knowledge and practical experience to design effective solutions.			
(5)	I am confident that I understand the importance of identifying problems in order to provide effective treatment.			