Evaluation of short-term courses in nursing occupational protection SiChuan Vocational College of Health and Rehabilitation (SVCHR) ,SiChuan Province,China

Yan Zhu

A Thesis Submitted in Partial Fulfillment of Requirements for

degree of Master of Education in Curriculum and Instruction

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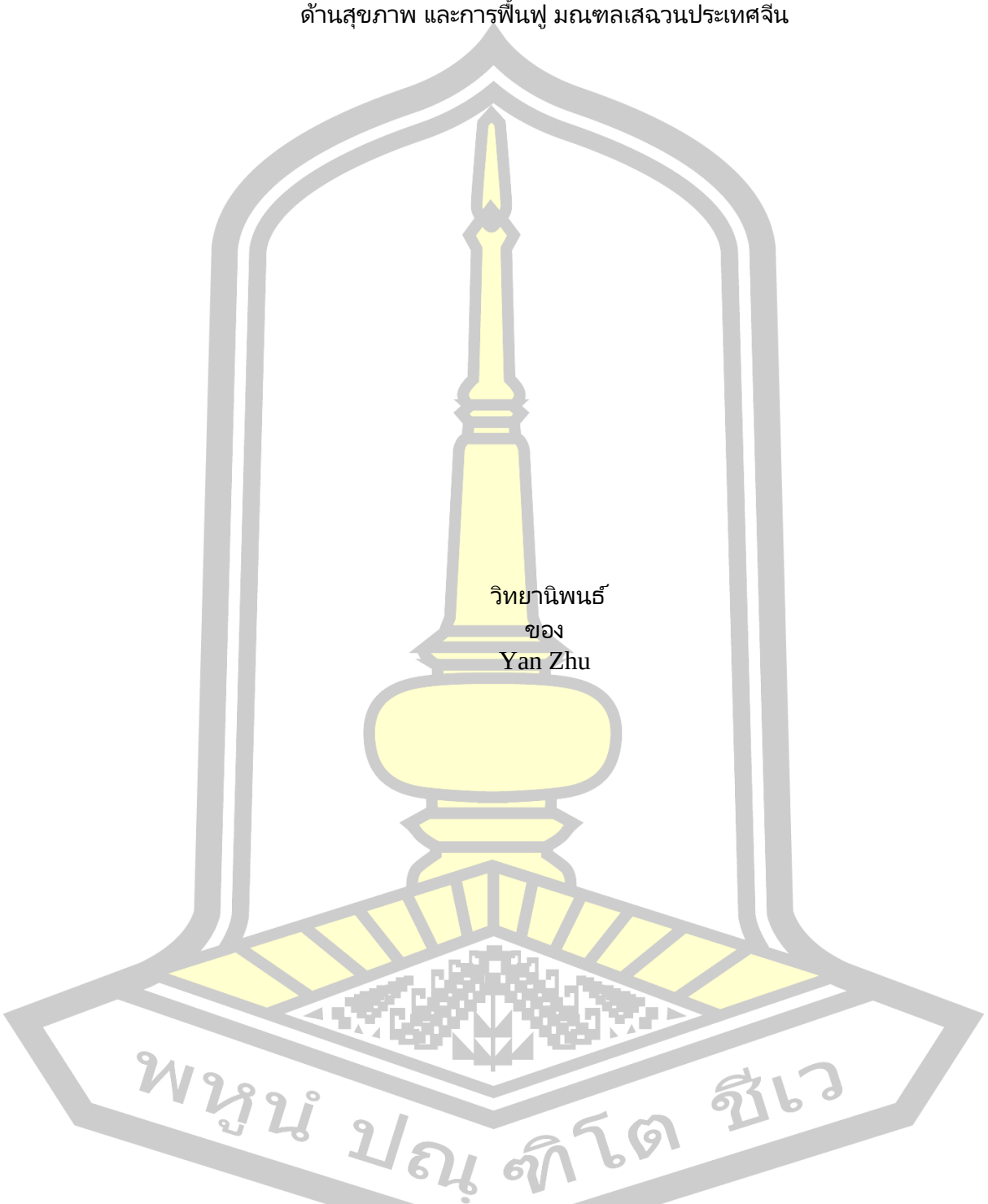

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ABSTRACT

This study uses the CIPP evaluation model to evaluate the short-term courses in nursing occupational protection at SiChuan Vocational College of Health and Rehabilitation from four aspects: context, input, process, and product , to gain the advantages and disadvantages of the course . To provide reference for the continuous improvement of short-term courses in nursing occupational protection.

A course satisfaction survey questionnaire was distributed to 84 students who participated in the training, and 8 teachers who participated in the teaching were interviewed. These 8 teachers, including 6 from the nursing school and 2 from clinical nursing in hospitals. The Lickert five-point scale was used to score student satisfaction evaluation (Cronbach's Alpha =0.92), and the collected data was analyzed using mean and standard deviation. Conduct content analysis on open-ended questions in the questionnaire, summarize and count the frequency of answers.

84 nurses participated in the short-term nursing occupational protection course. 84 student questionnaires were collected, with a 100% response rate. Collect 8 teacher interview questionnaires. For input evaluation, the mean of each indicator exceeds 4, it indicates that students have a relatively high overall satisfaction with the content and objectives of the short-term training course in nursing occupational protection. In the process evaluation, except for classroom innovation combined with new nursing technologies, with the Mean value of 3.98, the Mean values

of other indicators exceeded 4, indicating that students are generally satisfied with the teaching methods, teacher qualifications, homework, and examination system of the short-term courses in nursing occupational protection. In the product evaluation , students are not very satisfied with the practice time and class hours, but the overall evaluation of the course is satisfactory.We will continue to offer this course in the future to meet the needs of more learners. Course managers should make appropriate improvements based on the evaluation results, further optimize course content and teaching methods, in order to achieve better educational outcomes.

Keyword : Curriculum Evaluation, Nursing Occupational Protection, CIPP Evaluation Model

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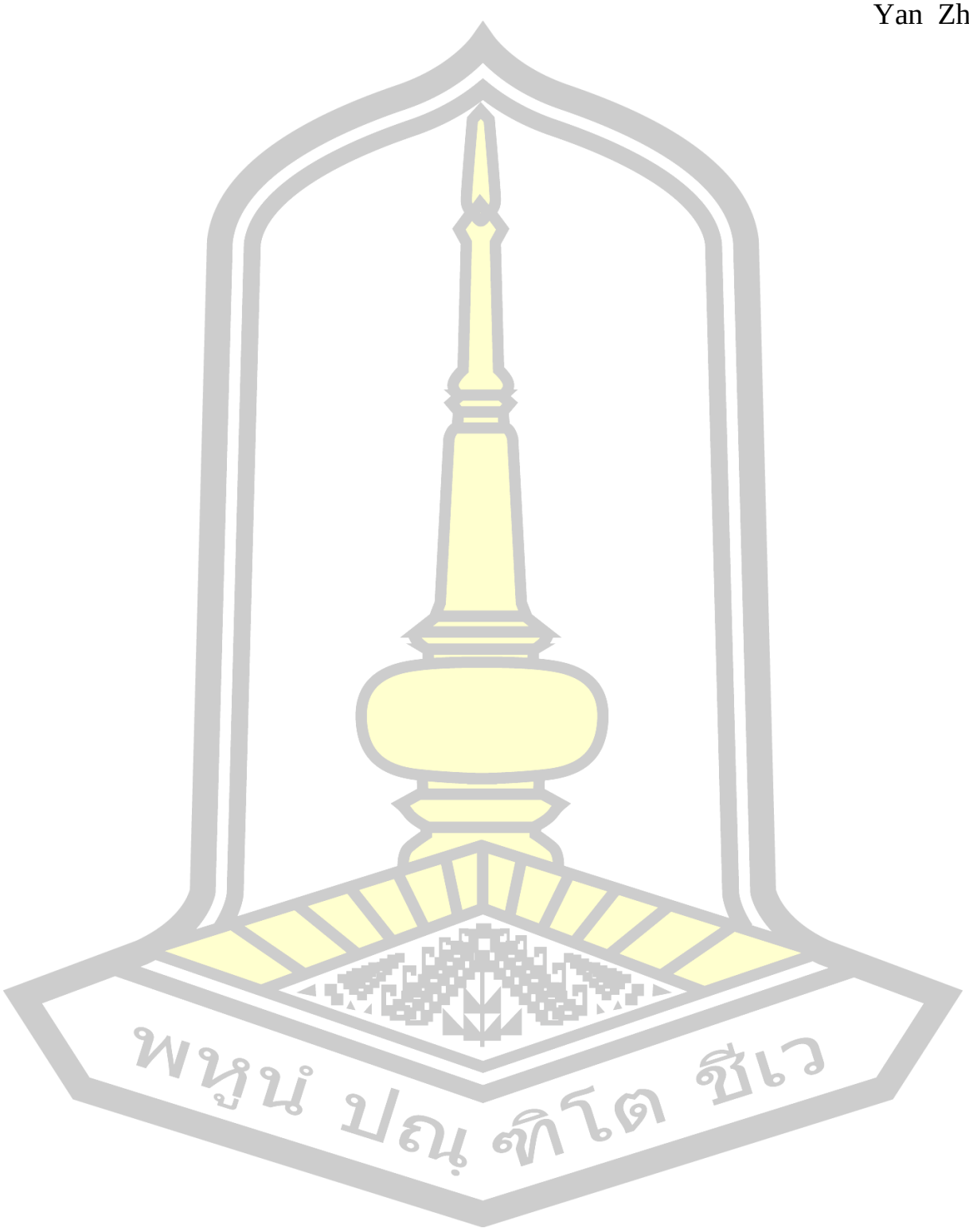

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CHAPTER I
INTRODUCTION

1.1 Background

Due to the unique working environment and service targets, nursing staff face severe occupational hazards. Both domestic and international studies（Różańska et al., 2014；Liu et al., 2015）have shown that, from the perspective of occupational distribution, nurses are the group with the highest proportion of occupational exposure. Entering clinical internships from school is necessary for every nursing student to become a clinical nurse. However, the tension and fear of entering clinical practice, unfamiliar hospital environments, lack of proficiency in operations, and lack of clinical experience make intern nursing students the main members of the nursing community who experience occupational exposure. (Yi &Tang, 2017) The focus of nursing professional risks lies in prevention, and the key to prevention lies in the cultivation of protective awareness. According to the official report of WHO in September 2020, the number of medical staff infected in some country's accounts for as much as 35% (2021). A study involving 37 countries shows that the number of medical workers infected with COVID-19 globally has exceeded 570000 (Erdem & Lucey, 2021). In general, the main danger points of occupational exposure in hospitals are sharp instrument injuries, especially needle injuries, which can lead to infection due to improper operation and other reasons. In the face of patients with COVID-19, the biggest risk lies in inadequate respiratory protection and contact transmission. Although there are strict operating standards, there are still many problems that can be encountered in practical operations, such as improper wearing of masks due to high temperatures, accidental contact

during changing protective clothing leading to infections, and inadequate protection during emergency medical care. Therefore, the importance and necessity of doing a good job in occupational exposure protection for medical personnel are more prominent. Nursing educators and hospitals should pay attention to how to popularize and strengthen nursing professional protection education so that nursing students have strong professional protection awareness and professional protection behavior. Due to factors such as tight class hours and a lack of textbooks, most nursing vocational protection education in universities has not yet been systematized. Nursing students only have a scattered and indirect understanding of occupational protection knowledge and skills, resulting in a lack of protection awareness and insufficient understanding of the consequences of occupational hazards (Yi, 2007; Liao, 2006; Chen, 2004; & Zhang, 2005). Conducting short-term courses on nursing occupational protection can help improve students' knowledge of occupational protection and prevent or reduce various occupational injuries. Therefore, the school must set up nursing occupational protection for nursing students before practice, which can help students enhance their awareness of protection and occupational protection skills, and also reduce the pressure of hospital training. The School of Nursing is aware of the importance of nursing professional protection courses. The purpose of evaluating the short-term courses is to improve the short-term courses, build the courses in the most clinical perspective, and make teaching and clinical seamless. The course needs to be continuously evaluated for ongoing improvement, conforming to the needs of the changing society (Onsri, Thaiudom, & Pathumkaew 2023). The Faculty of Nursing realized the importance of nursing occupational protection courses and is currently evaluating the training

courses to understand their current status, continuously improving them, and seamlessly integrating teaching with clinical nursing work.

1.2 Purpose of the Research

Using the CIPP evaluation model to assess short-term courses in nursing occupational protection, to understand the current status of the project from SiChuan Vocational College of Health and Rehabilitation (SVCHR), SiChuan Province, China.

Provide a reference basis for the continuous improvement of short-term courses on nursing occupational protection at SiChuan Vocational College of Health and Rehabilitation (SVCHR), SiChuan Province, China.

1.3 Scope of the Research

This study belongs to the research scope of vocational education in college nursing. The aim of this study is to investigate the satisfaction, advantages, disadvantages, and recommendations of nursing college students who participated in a one week, 40 hour nursing occupational protection course. This study is conducted on Sichuan Vocational College of Health and Rehabilitation (SVCHR) (Faculty of Nursing) in China. Vocational nursing students in second grade have completed two years of nursing courses and are about to embark on an 8-month internship at the hospital.

Students who have participated in this course and teachers who have taught will be listed as potential participants.

The student survey questionnaire and teacher interview questionnaire will use the framework of CIPP Evaluation Model's context,

input, process, and product components, combined with the evaluation of nursing occupational protection short-term courses to set up the questionnaire. After the course, distribute questionnaires to students and conduct interviews with the teachers who participated in the teaching.

1.4 Variable to study

The variables in this study are categorized into two, independent variables and dependent variables.

Independent Variable: The Evaluation of Students

Dependent V：Content of Short-term Training Course on Nursing Occupational Protection

1.5 Duration Time

The research is divided into three stages.

The first stage is the preparation. In September 2023, based on the actual teaching situation of our college, the research objectives will be determined through relevant literature search.

The second stage is to design and develop a questionnaire. Firstly, a preliminary questionnaire is formed through literature review, followed by expert consultation and preliminary investigation to form the final student survey questionnaire and teacher interview questionnaire.

The third stage is data collection and analysis. After completing a one week, 40 hour nursing occupational protection course, a questionnaire will be distributed to students and interviews will be conducted with the teachers who participated in the teaching. The specific teaching period is from July 1st to July 5th, 2024. The summary and data analysis will be conducted from July 6th to July 30th 2024. To ensure the adequacy of data

and accuracy of analysis, this study lasted for a relatively long period of about one year.

1.6 Definition of Terms

This section provides definitions and clarifications of the terms used in this research study. The definition of terms helps prevent confusion that can result when multiple terms and definitions refer to concepts in the literature.

CIPP Model

The CIPP Model was developed by Daniel Stufflebeam (2000) in the late 1960s to improve United States school systems, and since then it has been used in universities, government agencies, and institutions for evaluating products, projects, and programs in a variety of different fields. The CIPP Model is a Decision-Making model applied to program evaluation. The core components of the CIPP evaluation model include: Content evaluation: Analyze the rationality and necessity of the program objectives. Input evaluation: Evaluate the required and possible resources and other conditions to determine the feasibility of the plan. Process evaluation: Continuously inspect and provide feedback on the implementation process of the plan as a basis for improving the plan. Product evaluation: Evaluate the effectiveness and generalizability of the implementation of the plan, and assess the achievement of the evaluation objectives. The CIPP evaluation model provides comprehensive guidance for the assessment of this course, which is prepared for long-term implementation and aims to achieve sustainable improvement.

Short-term courses

Short-term courses, also known as curriculum units, short-term courses plan consisting of one or several semi-independent important units of a subject. Short-term courses refer to the form of concentrated learning in a relatively short period of time. Short-term courses are formulated based on the interests of teachers and students, as well as the experiences of social activities, teacher abilities, and the needs of social development. They are characterized by being short and concise, having good flexibility, high absorption rate of knowledge, and close connection with society.

Short-term courses in nursing occupational protection

Short-term courses in nursing occupational protection is a course aimed at protecting nursing personnel from or reducing occupational injuries that may be encountered in the nursing profession. This course mainly focuses on the high-risk area of occupational injuries in the medical nursing profession. Nursing staff may be exposed to biological, chemical, physical and other occupational hazards during their work, which may cause varying degrees of pathological damage and adverse effects on their mental and psychological health. Through the study of this course, nursing staff can understand and master effective protective measures, scientifically avoid occupational risks, improve occupational quality of life, and create a safer and more harmonious working atmosphere.

Occupational exposure

Occupational exposure refers to a state in which employees are exposed to harmful wives due to their professional relationships, which may damage their health or endanger their lives. Occupational exposure

in nursing refers to the occupational exposure that nurses are exposed to toxic and harmful substances or pathogenic short-term organisms during diagnosis, treatment, and nursing activities, as well as psychological and social factors that damage health or endanger life.

Occupational risk of nursing

Nursing occupational risk refers to all unsafe events that may occur in the process of nursing service.

Nursing occupational protection

Nursing occupational protection refers to taking effective measures against various occupational harmful factors in nursing work to protect nurses from the harm of occupational harmful factors or minimize the harm. Due to the unique working environment, nursing staff have the most frequent contact with patients, increasing the risk of occupational exposure and infection. They may be affected by various occupational hazards, such as infections, needlestick injuries, serious injuries, and corneal radiation burns caused by ultraviolet disinfection.

CHAPTER II
LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Curriculum evaluation plays an important role in substantive curriculum development and quality assurance incorporated with social needs and change (Rakpuangchon et al.,2006). The course needs to be continuously evaluated for ongoing improvement, conforming to the needs of the changing society. This chapter will introduce the development of nursing occupational protection, curriculum evaluation, and CIPP evaluation model.

2.1 The development of nursing occupational protection

From Industrial Nursing to Occupational Health Nursing When it was evaluated historically, "Occupational Health Nursing" which progressed very slowly and was called as "Industrial Nursing" in the early periods, is a field of specialization that originated from public health nursing. Therefore, it was rather focused on protection (Parker-Conrad, 1988). It was first raised in England as the initiation of "Industrial Nursing". Agricola a scientist, has called the pulmonary diseases that are frequently seen in those working in mines "The Miner Diseases" and recommended them to cover their mouths and noses and to ventilate the galleries to get protected from diseases (Bilir, 2014). Ramazzini (1633-1714), today is known as the founder of occupational health. Because the deaths that occurred due to infectious diseases and accidents have drawn the public's attention in England, "Occupational Health Nursing" has improved and developed in parallel with the advances in the occupational health area (Thornbory, 2013). Ada Mayo Stewart graduated from Nursing School.

Stewart usually wears the uniform of Waltham School where she graduated and a plain coat and a hat while providing nursing services. In the field of occupational health nursing, the first person known as the primary case manager is Ada Mayo Stewart (Ross, 1995; Stanhope & Lancaster, 2015). First time in history the occupational health nursing certification program was initiated by “The American Board of Occupational Health Nurses (ABOHN), established in 1971” in 1972 (Stanhope, & Lancaster, 2015). During these periods occupational health nursing continued to develop depending on knowledge and skills of public health nursing.

Along with Occupational Safety and Health Administration (OSHA) which focuses on the protection of employees from job-related hazards and the establishment of The National Institute for Occupational Safety and Health (NIOSH) in 1970, the need for occupational health nurses to meet recommended standards, even further increased. The Occupational Health Nursing Office was established within OSHA in 1993. Today, nursing occupational protection practices have gone into great change by affecting scientific, technological, and social developments and consequently (Topcu, & Ardahan, 2019). The research on occupational protection for nurses in China began in the 1990s, from 1994 to 2002, and the research results were relatively scattered. During this period, research on occupational protection for nurses was in its infancy, laying the foundation for the research on occupational protection for nurses in (Zhang, et al., 2021). In 2003, research began to gradually increase, and nurse occupational protection gradually became a focus of nursing research. Currently, China has entered a relatively stable stage of development in the field of nurse occupational protection through continuous development and accumulation. Occupational protection is to

take effective measures against various occupational harmful factors that may cause body damage to avoid the occurrence of occupational hazards or minimize the hazards. Occupational protection of nursing refers to taking effective measures against various occupational harmful factors in nursing work to protect nurses from the harm of occupational harmful factors or minimize the harm.

2.2 Theoretical framework

2.2.1 Social constructivist theory

Social Constructivism Theory: Constructivism theory emerged in the 1980s and has had a profound impact on teaching reform and practice. In 1996, British applied linguist M. Williams and psycholinguistic researcher R. Burden proposed the theory of social constructivism based on cognitive theory, humanism, constructivism, and social interaction theory (Zhao, 2009). Social constructivist theory emphasizes the sociality of knowledge construction. On the basis of affirming the individual subjectivity of knowledge construction, social constructivist theory emphasizes more on the social negotiability of knowledge construction. The core of social constructivism is that knowledge is not simply taught by teachers in the classroom and passively accepted by students. Learning is a process in which students actively construct knowledge, and in this process, students are the main body of learning. Teachers always pay attention to students' emotions and learning processes, provide guidance to students, and do not play the role of leaders. Students complete tasks assigned by teachers through interactions and interactions with others in the teaching environment. Social constructivism highlights the subject status of learners' knowledge construction. Social constructionism holds

that teaching is a special social interaction process, where learners actively construct knowledge through continuous interaction and negotiation with teachers, peers, textbooks, learning tools, and other stakeholders in real situations. In the view of social constructivism, learners should be reflective practitioners. Learning is the process in which learners actively reflect on their own learning methods and tools, explore their existing knowledge, constantly interact and integrate new and old knowledge, achieve balance in the process of assimilation and adaptation, and ultimately construct new knowledge.

2.2.2 Bloom's Theory of Teaching Evaluation

Bloom's theory of teaching evaluation: Bloom's theory of teaching evaluation focuses on evaluating the learning process, and it complements the theory of educational goal classification to form the theoretical foundation of "mastery learning". Bloom does not deny summative evaluation, but focuses more on formative evaluation, that is, placing less emphasis on evaluation results and more emphasis on the evaluation process. He believes that evaluation is not outside the teaching process, but an organic component of the teaching process (Xie, & Yao, 2022). Bloom also requires a formative assessment at the end of each unit to determine if the student has mastered it, and if not, to consider how to make up for it. The evaluation results are not based on scores, but only indicate whether they have been achieved or not, in order to promote students' confidence in learning. Formative testing helps to make judgments about students' learning progress, in order to achieve thorough mastery layer by layer according to the level of goals. In the application of Bloom's teaching evaluation theory, teaching evaluation and feedback are very important and need to permeate every aspect of teaching, adjust

teachers' teaching and students' learning in a timely manner, and improve the accuracy of teaching activities.

Bloom's theory of teaching evaluation is an important theory in the field of educational evaluation, mainly including the following aspects:

Evaluation classification: Bloom divides teaching evaluation into three types: diagnostic evaluation, formative evaluation, and summative evaluation. Diagnostic evaluation is used to understand the foundation of students before teaching; Formative evaluation is conducted during the teaching process, providing timely feedback and adjusting teaching; Summative evaluation is conducted after the end of teaching to summarize learning outcomes. The core of formative assessment: Bloom particularly emphasizes the importance of formative assessment, believing that it can timely diagnose the status of teaching and learning, promote the achievement of teaching goals, and have the functions of adjustment, reinforcement, diagnosis, and correction.

Taxonomy of Educational Objectives: Bloom also proposed taxonomy of educational objectives, which divides teaching objectives into three domains: cognition, emotion, and motor skills. Among them, the teaching objectives in the cognitive domain are divided into six levels: memory, understanding, application, analysis, evaluation, and creation, providing a clear framework for teaching evaluation.

Bloom's theory of teaching evaluation emphasizes the diversity and process of evaluation, aiming to promote the improvement of teaching quality and student learning outcomes through scientific evaluation methods.

2.2.3 Taylor’s principle

The Proposal and Interpretation of Taylor's Principle, Ralph W. Tyler, a renowned American educator and curriculum theorist, published "The Fundamental Principles of Education and Teaching" in 1949, thus establishing his "Fundamental Principles of Curriculum". Taylor's "Basic Principles of Curriculum" and "Evaluation Principles" are collectively referred to as the Taylor Principle, also known as the "Taylor Curriculum Design Principles" or "Taylor Curriculum Theory" (Zhu, 2024). The Taylor Principle is an important milestone in modern educational theory and is widely recognized as the most authoritative paradigm for modern curriculum research. It provides a scientific and systematic method for curriculum construction and has become an important theoretical guide for many countries to carry out curriculum reform. It has had a profound impact in the field of curriculum and has long been recognized by the education community at home and abroad. Taylor pointed out that the development of any curriculum and teaching plan must consider four questions: "What educational goals should schools strive to achieve?" "What educational experience should students provide to achieve these educational goals?" "How to effectively organize these educational experiences?" "How can we determine that these educational goals are being achieved. These four questions constitute the four logical points of curriculum research and correspond to the four basic stages of curriculum construction: determining curriculum objectives, selecting curriculum content, organizing curriculum implementation, and evaluating curriculum outcomes (Shi, 1996). The Taylor principle emphasizes the decisive role of educational goals, while also valuing the needs and learning process of learners. This makes education more focused on the

personalized and comprehensive development of learners, while also emphasizing the screening and organization of educational experiences, which helps to improve the quality and effectiveness of the curriculum. The Taylor principle emphasizes the importance of evaluation, which provides important references for later educational evaluation research and curriculum evaluation practices. The Taylor principle, based on the inheritance of predecessors, proposes an authoritative, relatively systematic, and easy to operate curriculum theory, providing a theoretical basis for curriculum development and reform.

2.3 Curriculum Evaluation

2.3.1 Definition of Curriculum Evaluation

Curriculum is the core element of talent cultivation, and curriculum evaluation is an important way for teachers to understand their teaching situation and effectiveness. How to construct a scientific curriculum evaluation index system, fully leverage the guiding, motivating, and improving functions of evaluation, promote education and teaching reform, and improve teaching quality is an important issue facing universities (Kang, & Liang, 2023). Curriculum evaluation refers to the process of using scientific tools to confirm and explain the effectiveness of teaching and learning, and to measure the effectiveness of its content and methods. Provide effective information for curriculum reform. It mainly includes two aspects: judgment of educational process planning and organization, and judgment of student learning outcomes. The specific evaluation objects include educational objectives, the entire curriculum, specific disciplines, and teaching materials (Huang, et al., 2003).

2.3.2 The Importance of Curriculum Evaluation

Program evaluation is not a recent phenomenon as some people mistakenly think, it dates back to 1900 to what was called “the age of reform” and continues to what we call nowadays “the age of professionalism” which started from 1973 until the present. Moreover, evaluation is "the systematic collection and analysis of all relevant information necessary to promote the improvement of a curriculum, and assess its effectiveness and efficiency, as well as the participants' attitudes within the context of the particular institutions involved". Thus, program evaluation needs to be carried out within a well-constructed framework, no matter the context in which the program takes place. Evaluation should have objectives that are specific to the context, and the program delivery should be in line with those objectives and market conditions, expectations, and needs. To ensure this, the program should be evaluated regularly; a systematic and well-conducted evaluation will provide quality information about the current state of the program in question. That information is not necessarily negative; on the contrary, it might give great insights into the program leading to valuable revisions. A British curriculum expert Kelly believes that curriculum evaluation is the process of evaluating the value and effectiveness of any specific educational activity. American curriculum theory expert Beauchamp believes that curriculum evaluation includes the necessary processes of judging the effectiveness of the curriculum system and the effectiveness of the planned curriculum. A British curriculum expert Kelly believes that curriculum evaluation is the process of evaluating the value and effectiveness of any specific educational activity. Since educational objectives are essentially changes in human beings, that is, the objectives are aimed at producing certain desirable changes in the behavior patterns of the student, and then

evaluation is the process of determining the degree to which these changes in behavior are taking place. Taylor proposed the concept of curriculum evaluation during his eight-year research. He believes that the process of curriculum evaluation is essentially a process of determining the degree to which the curriculum and teaching plan achieve educational goals. Evaluation in general is the process of collecting data on a program to determine its effectiveness to decide whether to adopt, reject, or revise the program. However, since educational objectives are essentially changes in human beings, that is, the objectives are aimed at producing certain desirable changes in the behavior patterns of the student, and then evaluation is the process of determining the degree to which these changes in behavior are taking place.

Such information could be gathered through using formative or summative evaluation which have been identified by Scriven (1991). Formative evaluation is used before or during the implementation of a program to provide information on who needs the program, the extent of their need, and how those needs should be met. The purpose of the formative evaluation is to validate the goals of the instruction and to ensure that are being achieved. If necessary, instruction can be improved by identifying and remediating problematic aspects. Summative evaluation is used after the implementation of the program to evaluate its effectiveness through interviews, direct observations, and document analysis. Summative evaluation leads to decisions about the program development, including its modification or revision. Both formative and summative evaluation are used to improve the program at stake, the difference is only in their timing, the following figure illustrates the use

of both formative and summative evaluation within the framework of the CIPP model:

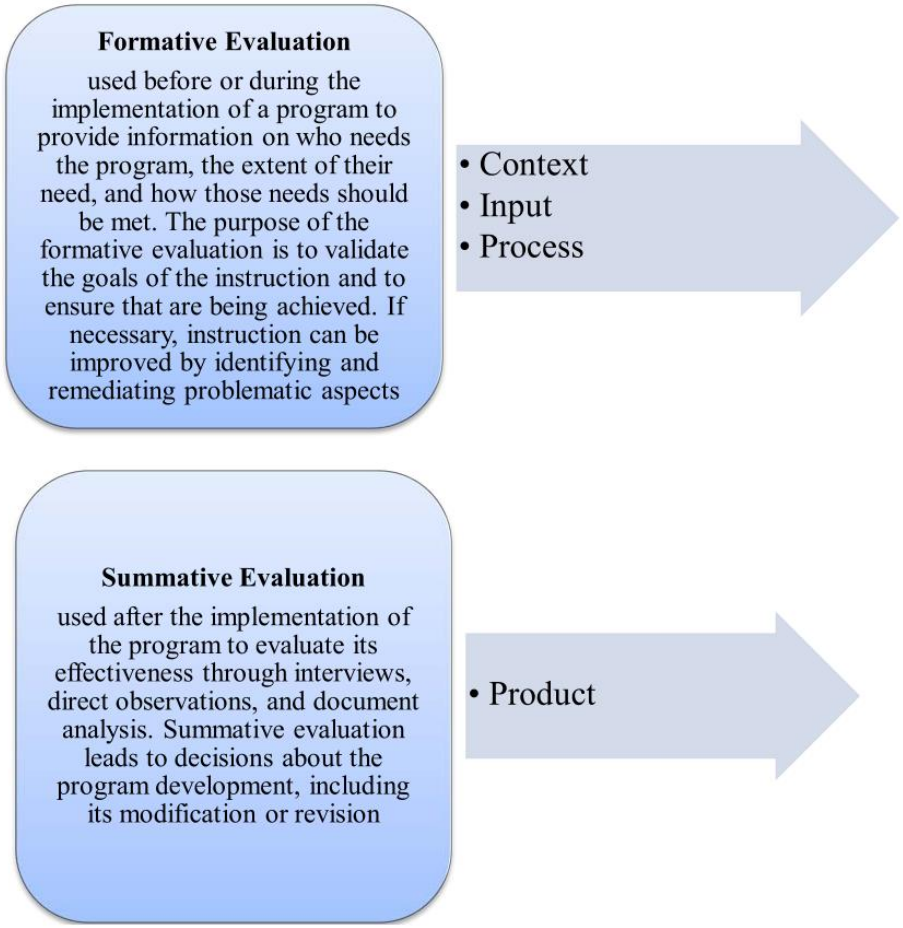


Figure 1 Formative and Summative Evaluation in the CIPP Model

2.4 Connotation of CIPP Evaluation Model

2.4.1 The connotation of the CIPP evaluation model.

CIPP is an evaluation model, abbreviated as Context, Input, Process, and Product, and is one of the most widely used curriculum evaluation models in the field of education (Dizon, 2023). Renowned American education critics such as Daniel L Stufflebeam (Stufflebeam,

Madaus, & Kellaghan, 2000; Jin & Wang, 2012) proposed the CIPP evaluation model in the 1960s and 1970s, and since then it has been used in universities, government agencies, and institutions for evaluating products, projects, and programs in a variety of different fields. This model will be used because it rejects the notion that evaluation's main task is to criticize and look for deficiencies.

The CIPP evaluation model was introduced to China in the second half of the 20th century with the introduction of foreign professional evaluation theories. The works that introduced the CIPP model mainly include "Collected Works on Education" and "Educational Evaluation". In the 21st century, there has been a gradual increase in theoretical research on the CIPP model: in Gao Zhenqiang's article "A Review of the CIPP Education Evaluation Model," the CIPP model theory was systematically introduced for the first time. He conducted a comprehensive analysis of the CIPP model from the perspectives of its background, evaluation steps, and characteristics. Xiao Yuanjun's (2003) article "Analysis of CIPP Education Evaluation Model" explores the basic ideas, implementation process, advantages and limitations of the CIPP model. Huang Jingyi's (2005) article "Analysis of CIPP Course Evaluation Model" analyzes the CIPP model from the aspects of its basic content, specific composition, advantages and disadvantages.

2.4.2 Application of CIPP evaluation model in course evaluation

Wu Fei (2007) conducted research on the basic ideas and specific components of the CIPP model in the application of the CIPP model in university course evaluation; Analyzed the CIPP model in the evaluation of university courses, mainly focusing on the evaluation of program design for university courses.

Wang Ying and Li Ping's (2009) "Application of CIPP Model in the Evaluation of Cultural Quality Education Courses in Colleges and Universities" analyzes the basic content, evaluation functions, and characteristics of the CIPP model; Conduct suitability analysis between CIPP model and evaluation of cultural quality education in universities; Designed the CIPP model for cultural quality education courses in universities; Interpret the process of the pattern.

2.4.3 Application of CIPP evaluation model in teaching evaluation

Xie Juan, Zhang Ting, and Cheng Fengnong (2017) conducted research on the educational connotation of the CIPP model in the construction of an evaluation system for flipped classroom teaching based on CIPP; Conduct appropriateness analysis on the evaluation of CIPP mode and flipped classroom teaching; Constructed a theoretical model for flipped classroom teaching evaluation based on CIPP; Based on the theoretical model of flipped classroom teaching evaluation, a flipped classroom teaching evaluation index system based on CIPP mode was constructed, and the index system was analyzed.

Shi Xiaoyan (2003) conducted research on the background and basic connotation of the CIPP model in her article "Evaluation of Developmental Classroom Teaching Using the CIPP Model"; Analyzed the basic concepts of developmental classroom teaching evaluation; The application of CIPP model in the practical operation of developmental classroom teaching evaluation is divided into four aspects: the formulation of teaching objectives, the design of teaching plans, the process of teaching activities, and the evaluation of teaching outcomes;

Finally, the issues that need to be noted when using the CIPP model to carry out developmental classrooms were explained.

Stauffelbim (2000) proposed that the most important purpose of evaluation is not to prove, but to improve. The CIPP Model is a Decision-Making model applied to program evaluation that uses context evaluation, input evaluation, process evaluation, and product evaluation.

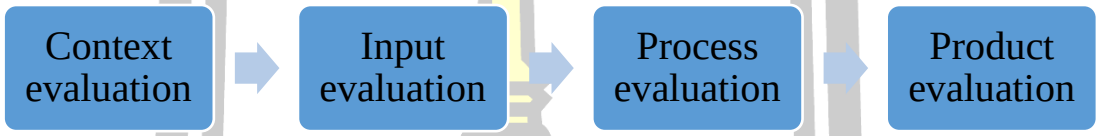


Figure 2 The Four steps 0f the CIPP Evaluation Model

Context evaluation: Evaluating problems, needs, and opportunities (Jiang, 2007) is essentially a diagnostic evaluation. Researchers analyze the existing problems and obstacles of the evaluated content through systematic reviews, surveys, literature reviews, and Delphi methods, and determine the gap between the plan objectives and the actual plan

Input evaluation: Evaluating the conditions, resources, and advantages and disadvantages of various alternative solutions required to achieve the objectives of the plan is essentially a feasibility evaluation. To identify the advantages and disadvantages of different solutions, it is necessary to conduct a comprehensive analysis of possible human, material, and cost resources, as well as analyze strategies for solving problems.

Process evaluation: Continuously monitoring, inspecting, and providing feedback during the implementation of the plan, to improve and adjust in the next stage, is essentially a formative evaluation. Researchers should communicate and provide feedback to specific participants in the process evaluation, understand the current status and potential issues of the implementation of the plan, and provide effective information for revising the plan.

Product evaluation: Evaluating whether the goals of the plan have been achieved and to what extent, essentially belongs to summative evaluation (Wang, 2010). Researchers can collect evaluations of the results from personnel related to the plan, and use qualitative and quantitative analysis methods to determine the results of the implementation plan, deciding whether to continue using, revising, or changing it.

It is worth mentioning that in the CIPP evaluation model, background evaluation is a continuous cycle, while input, process, and outcome evaluation occur when background evaluation identifies and solves problems. The CIPP evaluation model belongs to scheme evaluation and is suitable for the evaluation of university courses (Li, & Liu, 2008). These are types of what are typically viewed as separate forms of evaluation, but they can also be viewed as steps or stages in a comprehensive evaluation. What makes this model distinctive is its new definition of evaluation as a way to improve the programs that are being evaluated, as Stufflebeam has stated: “The CIPP approach is based on the view that the most important purpose of the evaluation is not to prove but to improve”. Information is obtained by conducting the following four types of evaluation: context, input, process, and product, or by using only

one type of those evaluations, depending on the needs of the audience. The main reasons for choosing the CIPP evaluation model for the evaluation of short-term training courses in nursing occupational protection are as follows:

Comprehensiveness: The CIPP evaluation model includes four parts: background evaluation, input evaluation, process evaluation, and outcome evaluation, which can comprehensively cover all aspects of curriculum evaluation and provide decision-makers with comprehensive information.

Decision orientation: The CIPP model emphasizes that the purpose of evaluation is to improve rather than prove, providing useful information to decision-makers and making the curriculum more effective. This decision orientation helps course evaluation better serve course improvement and decision-making processes.

Flexibility: The CIPP model allows evaluators to adopt different evaluation strategies as needed, which can be used before or during the implementation of the plan, and even one or several evaluations can be implemented, making it very flexible.

Developmental Function: The CIPP model highlights the developmental function of evaluation, which not only focuses on the degree of achievement of expected goals, but also on unexpected effects and continuous improvement of curriculum plans, which helps promote the long-term development of the curriculum.

To conclude we can say that the CIPP model is a decision-making model that aims at positive change in the program in question, by delineating what to be evaluated and the object of evaluation, what information is needed from this evaluation, and from where to get it, the

time and location of evaluation, obtaining and collecting these information by using specific procedures and methods like interviews, observation, questionnaires, tests, surveys, content analysis among others, and finally analyzing the gathered data to make the right decisions. Furthermore, this model can be used for internal evaluation, external evaluation, and self-evaluation as stated by Stufflebeam (Mahasneh, 2013). Based on the comprehensive consideration of the above reasons, this study chooses CIPP mode as the evaluation mode.

2.5 The short-term courses in nursing occupational protection

2.5.1 The concept of short-term courses in nursing occupational protection

The concept of short-term courses in nursing occupational protection mainly focuses on teaching and practicing to enable nursing staff to understand and master the knowledge and skills of occupational protection in a short period of time, in order to reduce occupational risks, protect nurses from occupational injury factors, or minimize their injuries. This type of course typically covers the definition, causes, preventive measures, and coping strategies of nursing occupational exposure, aiming to improve the professional quality of life of nursing staff, scientifically and effectively avoid nursing occupational risks, and create a relaxed and harmonious working atmosphere.

Nursing occupational protection involves multiple aspects, including but not limited to biological factors (such as contact with patient blood, body fluids, and excreta), physical factors (such as sharp instrument injuries, radiation injuries, etc.), chemical factors (such as contact with chemical disinfectants, anesthesia waste, etc.), and

psychosocial factors (such as mental stress, work stress, etc.). These factors may pose a threat to the health of nursing staff, therefore, through short-term courses, nursing staff can acquire the necessary knowledge and skills to reduce these risks.

In addition, the short-term course in nursing occupational protection also emphasizes the concept of standard prevention, which assumes that all substances in the body, such as blood, body fluids, secretions, etc., have potential infectivity, and protective measures should be taken when in contact to prevent the spread of diseases due to occupational infections. Through such training, nursing staff can better protect themselves, improve service quality, and ensure patient safety.

2.5.2 Characteristics of short-term courses in nursing occupational protection

Short term courses themselves are not a new thing, but they are also undergoing changes with the changing survival background. Curriculum is a life that is constantly evolving and changing. A course framework designed for a certain concept or theme in short-term courses, which can not only meet students' interests and needs, but also timely absorb the latest cultural knowledge and reflect the spirit of the times. The flexible nature of short-term courses adapts to the development of the times and meets the requirements of the knowledge age. Moreover, it is worth mentioning that in the current context of promoting innovation and reform of teaching methods in universities, the exploration of short-term courses also has certain significance because their teaching has great flexibility.

Secondly, there is the characteristic of short-term courses being "refined". The word 'refined' emphasizes that the content and form of short-term courses are concise and refined. When designing and developing courses, instructional designers are required to choose course content that learners are interested in and need, and present it in a flexible and varied form to learners. Therefore, short-term courses must condense and select subject content in order to better play the role of short-term courses.

Finally, the 'school-based' nature of short-term courses. Short term courses are essentially a form of school-based curriculum. It can be developed by the school's school-based curriculum development team based on the current situation of the school to adapt to the curriculum of the entire school, or by individual teachers to design class based short-term courses according to the actual situation of the students in their class. When designing, teachers should not only consider students' interests, but also comprehensively consider the school's resource allocation, faculty strength, and teaching.

The characteristics of short-term courses in nursing occupational protection mainly include systematicity and practicality, aimed at improving the awareness and skills of medical staff in occupational protection. Systematic: Courses typically cover the basic concepts, principles, and methods of occupational protection, ensuring that learners have a comprehensive understanding of the importance and implementation steps of occupational protection. Practicality: The course content is closely integrated with practical work scenarios, teaching how to apply occupational protection knowledge and skills in actual work to improve self-protection ability and reduce occupational exposure risks. In addition, these courses may also

include an introduction to legal regulations and policy support, helping healthcare workers understand relevant legal regulations and policy requirements, so as to better comply with regulations and protect their own and others' health and safety in their work. Through the training of these courses, medical staff can improve their ability to identify and handle occupational exposure risks, reduce the occurrence of occupational diseases, and ensure their own health and safety.

2.5.3 The methods of short-term courses for nursing occupational protection

Course Name: Nursing Occupational Protection

Course settings

In 2024, our hospital will include short-term short term courses on nursing occupational protection in the teaching plan, with a total teaching time of 40 hours, including 12 hours for theory and 28 hours for practice.

Teaching content

Based on the current clinical practice and the educational needs of nursing students, arrange teaching content, including occupational protection knowledge and skills. Occupational protection knowledge includes topics such as the current status and regulations of occupational protection, standard prevention and protective measures, the hazards and routes of occupational infections, types and selection of occupational protection equipment, and procedures for handling accidents; Occupational protection skills teaching includes standardizing various nursing skills operations, strengthening hand washing, correctly wearing masks, correctly wearing goggles, wearing gloves, wearing isolation clothing, wearing protective clothing, handling contaminated sharp tools, simulating the preparation of chemotherapy drugs, and handling medical waste.

Teaching methods and media tools

Combined with case analysis, role-playing, situational teaching, etc., are used to stimulate students' learning enthusiasm, and enhance their participation and perception. In the teaching process, in addition to using multimedia courseware, we also made multiple flowcharts and video clips to provide students with intuitive guidance， to promote student learning and participation.

Evaluation methods and standards

After the course is completed, the teaching effectiveness will be evaluated using a comprehensive evaluation method. The objective evaluation indicators are the mastery of occupational protection knowledge and the assessment results of protective operation skills by students, to evaluate students' learning outcomes and abilities.

Teaching reference books and learning materials

Teaching reference books can play a certain promoting role in helping teachers understand and master textbooks, reform teaching methods, and improve teaching quality. At the same time, reference books help expand students' understanding and understanding of the subject, providing deeper knowledge and a broader perspective, so that students can further deepen their learning and research.

1)《Basic nursing skills training and application》Beijing: Science Press, 2021

2)《Basic Nursing》Beijing: People's Health Press, 2022

3)《Guidance for the 2023 National Nurse Practitioner Qualification Examination》

2.6 Literature Review

From the above analysis, we can conclude that occupational protection in the West originated earlier and was initially referred to as "industrial nursing", which originated from the professional field of public health nursing. Subsequently, deaths caused by infectious diseases and accidents have attracted public attention in the UK, and "occupational health care" has been further improved and developed.

Research on occupational protection for nurses in China began in the 1990s when research on occupational protection for nurses was in its infancy. In 2003, research began to gradually at present, China has entered a relatively stable stage of development in the field of nurse occupational protection. Both domestic and foreign studies have shown that, from the perspective of occupational distribution, nurses are the group with the highest proportion of occupational exposure. The focus of nursing professional risks lies in prevention, and the key to prevention lies in the cultivation of protective awareness. Conducting short-term courses on nursing occupational prevention can help improve students' knowledge of occupational protection and prevent or reduce various occupational injuries.

The curriculum needs to be continuously evaluated and improved to adapt to the constantly changing social needs. Course evaluation mainly includes two aspects: judgment of educational process planning and organization, and judgment of student learning outcomes. Course evaluation can be traced back to 1900 and continues to this day. Evaluation in general is the process of collecting data on a program to determine its effectiveness to decide whether to adopt, reject, or revise the program, as suggested by Tyler: The process of evaluation is

essentially the process of determining to what extent the educational objectives are being realized by the program of curriculum and instruction. However, since educational objectives are essentially changes in human beings, that is, the objectives are aimed at producing certain desirable changes in the behavior patterns of the student, and then evaluation is the process of determining the degree to which these changes in behavior are taking place.

Even though program evaluation has a long history and a huge repertoire of models and approaches designed by theorists depending on their philosophy, training, ideology, methodology, and values among other things, only the framework of the Context Input Process and Product Model (CIPP) - which is a decision-oriented evaluation approach aims at helping stakeholders to make decisions about the program in question- has been used to conduct the evaluation needed in this study. Because this model rejects the notion that the evaluation's main task is to criticize and look for deficiencies. Instead, it uses evaluation as "a tool by which to help make programs work better for the people they are intended to serve." Another reason for selecting this model is that it can be utilized for both formative and summative evaluation.

CIPP, also known as the Decision Oriented Evaluation Model, is based on modern systems theory and emphasizes the process and diagnostic feedback of evaluation, rather than the traditional educational evaluation model that emphasizes outcome evaluation. The CIPP model believes that educational evaluation should not be limited to the degree of achievement of expected goals, but should collect relevant information and materials on the implementation of educational programs, provide a basis and reference for decision-making, and is a comprehensive

evaluation of formative and outcome-oriented. When evaluating, the CIPP model takes the task itself as the analysis object, and evaluates it from context evaluation, input evaluation, process evaluation, and product evaluation. It can evaluate each process separately or systematically as a whole, with dynamic planning, organization, implementation, and recycling, integrating diagnostic evaluation, formative evaluation, and summative evaluation, It can comprehensively and systematically reflect the process, integrity, and social needs of the evaluation object.

This study is based on the study of the CIPP evaluation model. By reviewing literature and project evaluation materials, the short-term nursing occupational protection courses were evaluated to improve the adaptability of training courses, better adapt to student development, and help students avoid or reduce various occupational injuries.

Framework of the thesis

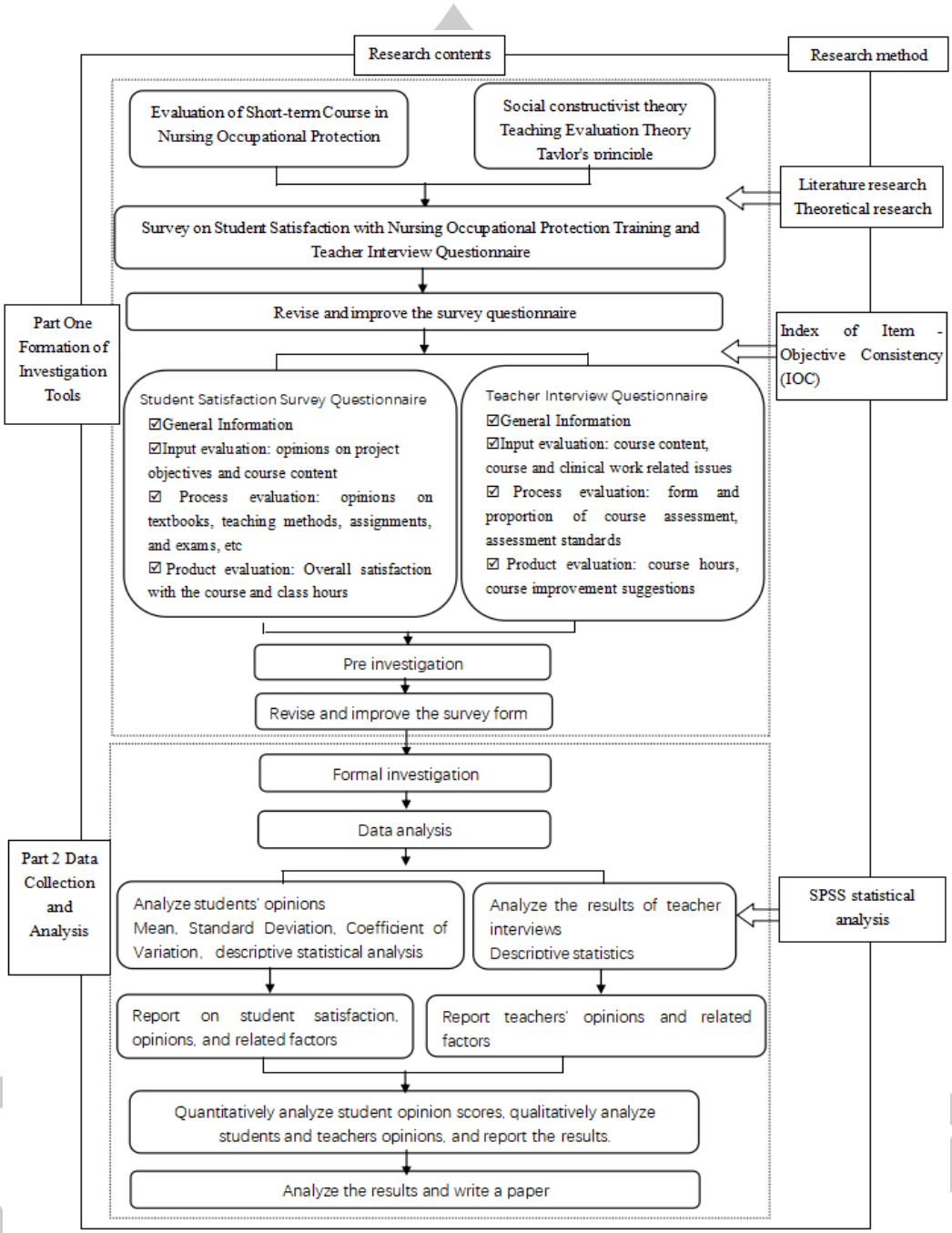


Figure 3 The technical roadmap of this study

CHAPTER III
RESEARCH METHODS

This chapter presents the overall design of the study, Population and Sampling, Instrument, Construction and Quality of Instrument, Measurement and Data Collection, and data analysis.

3.1 Research Designs

The framework of the CIPP (context, input, process, and product) evaluation model developed by Stufflebeam was used in the study. Using the framework of the Context, Input, Process, and Product components of the CIPP evaluation model, as a pioneer study in this area, to better understand the status quo of these programs and to indicate the strengths and the weaknesses if there is any to meet the needs and the expectations of the stakeholders especially the students and the hospital. This study collected data through questionnaire surveys and interview forms, and distributed questionnaires in the form of Wenjuanxing. As for quantitative data, a questionnaire, that consists of 37 closed-ended items, was used to collect data from the students. Qualitative data is collected through open-ended questions to gather feedback from students and teachers on the strengths, weaknesses, and improvement suggestions of the project.

Furthermore, we have grouped the research questions under four areas according to the CIPP model; context, input, process, and product as follows:

3.1.1 Context Evaluation

Why are nursing occupational protection courses offered? (Student needs, school needs, era requirements); Practicability (required conditions such as site, personnel, equipment, and materials)

3.1.2 Input Evaluation

What are the students' and instructors' characteristics? This section will include information about students who participated in this study such as; their number, gender, and age. And information about the teachers who participated in this study and were interviewed by the researcher. Information like; their number, qualifications, academic rank, and years of experience among others will be included.

What are the students' and teachers' perceptions of the objectives and content dimensions of the program? Here, we will discuss the views of students and teachers on the goals and course content of this project. The student questionnaire includes (3 items) discussing their satisfaction with the objectives, and (6 items) discussing their attitudes towards the course content. The interview questions for teachers include (8 items) questions related to their views on the course content, and (2 items) questions related to the course and clinical work.

3.1.3 Process Evaluation

The research question and sub-questions about the process component of the evaluation were: What are the students' overall perceptions on; Students' overall understanding of materials and resources: Overall views of students on teaching methods: Students' overall understanding of nursing occupational protection course assignments and exams； Overall views of students on issues related to the course and clinical work; In the student's opinion, what teaching

methods are easier for you to master in nursing occupational protection teaching? What difficulties did students encounter in nursing occupational protection courses? What have students learned from these courses? In addition to the content learned in this course, what other content do you think should be added?

From the perspective of a teacher, what aspects should be focused on in short-term occupational protection training courses? What is the form and proportion of course assessment? Is there a strict skill assessment standard?

3.1.4 Product Evaluation:

The research questions about the product component of the evaluation were: What is the overall satisfaction of students with nursing occupational protection courses? What are the opinions of teachers on the improvement of training courses?

What is the overall satisfaction of students with the hours of nursing occupational protection courses? Teacher's opinion on the duration of nursing occupational protection courses.

What do students think is the most useful protective skill? What suggestions does the teacher have for improving students' occupational protection skills?

What suggestions do teachers and students have for improving nursing occupational protection courses?

In the opinion of clinical experts, to what extent can students avoid occupational exposure in clinical nursing work through the knowledge and skills learned in the course?

3.2 Population

Population: Vocational nursing students in second grade from Faculty of Nursing in Sichuan Vocational College of Health and Rehabilitation (SVCHR), 84 people in 2 classes. Eight teachers participated in nursing occupational protection teaching.

In this study, 84 students who participated in the training and 8 teachers who organized the training were selected as the research subjects

3.3 Instrument

Questionnaires and interview schedules are used to collect data in this study.

Questionnaire production：This study first conducted a systematic search of literature related to the themes of "Nursing Occupational Protection Curriculum Evaluation" and "CIPP Evaluation Model" from 2013 to 2023, based on literature databases such as China National Knowledge Infrastructure, Wanfang, and VIP Net. Through literature review and analysis, based on the CIPP evaluation model, a preliminary student satisfaction survey questionnaire and a teacher interview questionnaire were developed for this topic from three dimensions: Input Evaluation, Process Evaluation, and Product Evaluation. The questionnaire is divided into three parts.

Part 1 (Students' Opinions): This section includes three dimensions: input evaluation, process evaluation, and product evaluation. The input evaluation aims to understand students' opinions on the teaching content and course objectives, including 9 questions. The process evaluation aims to understand students' views on teaching methods and assignments, examination systems, teacher qualifications,

and issues related to curriculum and clinical work, including 17 questions. The product evaluation aims to understand students' satisfaction and opinions on the theoretical and practical aspects of the course, as well as the overall project, including 11 questions. This part of the student satisfaction survey questionnaire is conducted using the Likert five-point scale . Likert five-point scale is the most widely used psychometric scale for obtaining feedback (Kandasamy et al., 2020). Likert five-point scale was proposed by American sociologist Rensis Likert in 1932. This scale is mainly used to measure people's attitudes, opinions, or beliefs towards a certain concept, thing, or phenomenon. Its characteristics are easy to operate, easy to understand, and suitable for large-scale investigation and research. The Likert Five Point Scale is mainly composed of five levels, including: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree. We assign 5 points to these five levels, ranging from 1 to 5, indicating that 5 is "strongly agree", 4 is "agree", 3 is "neutral", 2 is "disagree", and 1 is "strongly disagree".

Part 2 (Students' open-ended perceptions): The second part was in the form of open-ended questions concerning students' perceptions of the difficulties that faced in the nursing occupational protection course as well as the benefits they gained from these courses. The open-ended questions also explored which teaching methods are easier for them to master in nursing occupational protection teaching, what practical protective skills should be added in addition to the content learned in this course, and their suggestions for improving occupational protection courses.

Part 3 Teacher Interview: Teacher's Views on the Curriculum. During the interviews, the instructors were asked about the objectives of the program and to what extent those objectives were met along with their opinions regarding the teaching methods and materials and the assessment dimensions of the program.

3.4 Construction and Quality of Instrument

3.4.1 Invite 5 experts, including 3 from the Faculty of Nursing and 2 from clinical nursing in hospitals, to score the research questions and options using Index of Item - Objective Consistency (IOC) developed by Rovinelli and Hambleton (1976).

Experts' information：There are 5 experts, including 3 from the Faculty of Nursing and 2 from clinical nursing in the hospital. The expert standard is to have professional knowledge and experience in education research, nursing teaching, clinical nursing, teaching methods, and other fields, as well as relevant medical vocational skill level certificates and clinical nursing work experience. Participate in the content review and evaluation of the questionnaire, and provide suggestions for modifying the questionnaire. Here are five experts in the fields of nursing education and clinical nursing work:

1) Li Cai: A full-time teacher and associate professor at SiChuan Vocational College of Health and Rehabilitation, Faculty of Nursing. The main research areas include infectious disease nursing and nursing education, with rich clinical nursing experience and educational background.

2) Yan Pan: A full-time teacher and associate professor at SiChuan Vocational College of Health and Rehabilitation, Faculty of

Nursing, serving as the director of the Surgical Teaching and Research Office. Her main research direction is surgical clinical nursing, and she has many years of clinical nursing experience and significant research results.

3) Guoyan Zheng: A full-time teacher and associate professor at SiChuan Vocational College of Health and Rehabilitation, Faculty of Nursing, specializing in chronic disease nursing, nursing education, and clinical nursing. She is a senior nursing education expert.

4) Yongxian Huang: Deputy Chief Nurse of the First People's Hospital of Zigong City, China, and Director of the Nursing Training Center. Her main research areas include clinical nursing, emergency nursing, and nursing education, and she has rich experience in clinical nursing and teaching.

5) Wenping Li: Deputy Chief Nurse of the First People's Hospital of Zigong City, China. Director of the Nursing Teaching and Research Office. Her main research areas include clinical nursing, basic nursing, and nursing education, and she has rich experience in clinical nursing and teaching.

IOC

The preliminary questionnaire was submitted to five experts in the field to measure and screen the content validity based on the Index of Item - Objective Congruence (IOC) developed by Rovinelli and Hambleton (1976) in order to achieve validity.

Considering the consistency (IOC) between the evaluation items and the evaluation criteria, the evaluation criteria are as follows:

Make sure that the evaluation item meets the evaluation criteria and the score is +1;

Uncertainty that the evaluation item meets the evaluation criteria and the score is 0;

When you are sure that the evaluation item does not meet the evaluation criteria, the score is -1;

Content effectiveness of the Scoring Rubric , use the following formula to determine (IOC): $\mathbf{IOC} = \frac{\sum \mathbf{R}}{\mathbf{n}}$

OC stands for acceptance index, $\sum R$ stands for expert summation, n stands for number of experts, If the resulting average fell within the range of 0.50 to 1.00, it indicated that the test paper was considered valid,

The preliminary students' opinions survey questionnaire consists of 49 questions. Based on the IOC Result of the Students' Opinions Survey In Nursing Occupational Protection Training, as shown in Appendix A, questions 7, 11, 16, 18, 36, and 37 were deleted. Finally, the nursing occupational protection training student satisfaction survey questionnaire was determined, as shown in Appendix B. The preliminary teacher interview questionnaire has a total of 38 questions. Based on the IOC Result of the interview questionnaire for nursing occupational protection training teachers, as shown in Appendix C， questions 12, 16, 27, and 35 were deleted, and the nursing occupational protection training teacher interview questionnaire was finally determined, as shown in Appendix E.

3.4.2 Pre-investigation was conducted before the formal investigation, and its reliability was tested using Cronbach's Alpha. The questionnaire was designed in a 5 Linkert-scale design. A total of 37 questions are included. Internal consistency Cronbach's Alpha values for the

satisfaction survey of students in the short-term courses in nursing occupational protection, as shown in Table 1.

Table 1 Internal Consistency Cronbach's Alpha Value of Student Satisfaction Survey for Short-term Courses in Nursing Occupational Protection

Dimensionality	Cronbach's Alpha	Number of questions
Overall	.934	37
Input evaluation	.904	9
Process evaluation	.865	17
Product evaluation	.772	11

Note: From Table 1, it can be seen that the overall Cronbach's alpha of the questionnaire is 0.934 (Alpha>0.8), and the internal consistency value indicates that the questionnaire meets the credibility required for the study, and could be used for formal data collection.

3.5 Measurement and Data Collection

Before conducting the data collection procedure for this study, this research application has been reviewed and approved by the Ethics Committee for Research Involving Human Subjects, Mahasarakham University, Thailand on May 15, 2024, as shown in Appendix E.

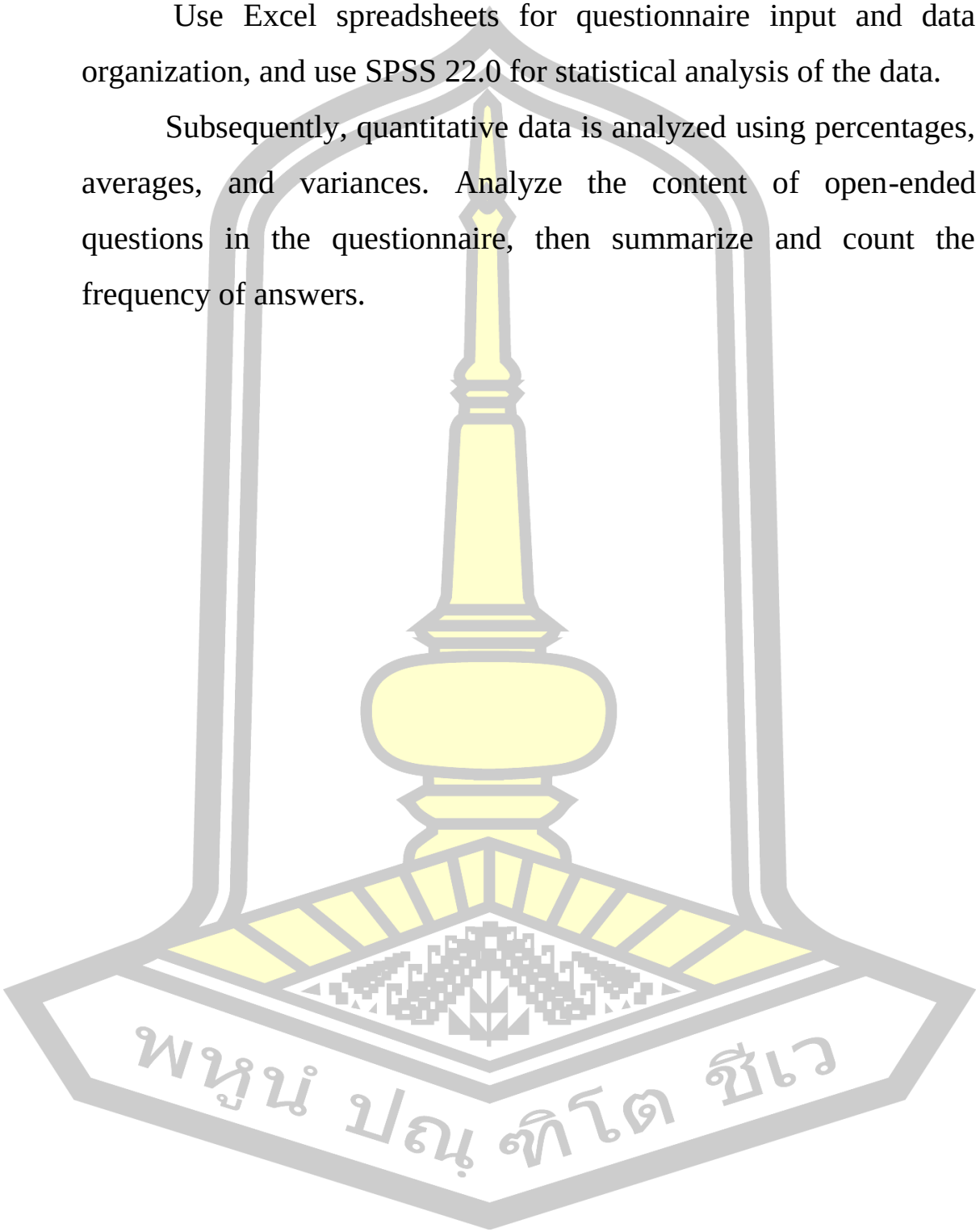
Coordinate with the trainers, and the researchers will uniformly distribute the questionnaires, clarify the purpose of the survey, and distribute and collect them on site.

Use Wenjuanxing for data collection.

3.6 Data Analysis

Use Excel spreadsheets for questionnaire input and data organization, and use SPSS 22.0 for statistical analysis of the data.

Subsequently, quantitative data is analyzed using percentages, averages, and variances. Analyze the content of open-ended questions in the questionnaire, then summarize and count the frequency of answers.



CHAPTRE IV
DATA ANALYSIS RESULTS

The main purpose of the study was to draw a clear picture of short-term courses in nursing occupational protection through the evaluation of short-term courses of nursing occupational protection, using the framework of the Context, Input, Process, and Product components of the CIPP evaluation model developed by Daniel Stufflebeam in 1971. The research questions were displayed under the four parts of the CIPP model (Context, Input, Process, and Product).

4.1 Context Evaluation Analysis

4.1.1 Why are nursing occupational protection courses offered? (Student needs, school needs, era requirements)

Firstly, the demand for nursing staff. Determine the basic preparation and feasibility of course development by investigating, analyzing, and diagnosing learners' needs. According to the 2021 China Health Statistics Yearbook, the number of registered nurses in China increased by 1.46 million in 2020 compared to 2015, with a growth rate of 45%. The number of registered nurses per thousand population increased from 2.37 in 2015 to 3.34 in 2020, and the national medical-to-nursing ratio increased from 1:1.07 in 2015 to 1:1.15.With the intensification of population aging, the demand for nursing care such as elderly care, long-term care, and home care is growing rapidly. The construction of nursing teams is an important guarantee for expanding the supply of nursing services. The 《"Healthy China 2030" Plan Outline》 clearly states that by 2030, the number of registered nurses per thousand

permanent residents should reach four point seven (2016) Therefore, there is still significant room for development in China's nursing workforce in the future (Han, et al., 2022).

Secondly, meet the diverse needs of students in their future work. Before the internship, nursing students lacked overall knowledge of nursing occupational protection. Occupational protection courses can help improve the cognitive level of nursing students' occupational protection. Schools and hospitals should attach importance to and improve relevant occupational protection courses, and strengthen targeted occupational protection education for nursing students. Occupational protection education and training are important measures to reduce the occupational exposure of nursing staff. The Centers for Disease Control and Prevention (CDC) in the United States has recommended this work as a mandatory implementation project for all hospitals in the country. (Teng, 2000) Chinese scholars have also proposed that incorporating occupational protection compensation education into pre-job training for clinical internships is a necessary and effective compensation measure. (Ran, 2013) There are also studies (Liu, et al., 2009; Jiang, et al., 2005) Indicating that the best period for nursing students to receive systematic protection education is the period before clinical internship, and training on occupational protection knowledge and methods is most effective before the internship.

Thirdly, the demands of the times. To fully leverage the decisive role of the market in resource allocation, various regions can rely on higher medical colleges, vocational colleges (including technical colleges), industry associations, medical institutions, vocational training institutions, etc. with certain conditions within their jurisdiction to

undertake the training of medical nursing staff. Specific content: Master the basic knowledge and techniques of disinfection and isolation, possess safety awareness, and master safety protection. (Notice from the National Health Commission and 5 other departments on strengthening the training and standardized management of medical and nursing staff).

4.1.2 Practicability (required conditions such as site, personnel, equipment, materials)

Faculty of Nursing has corresponding theory classrooms and training classrooms, with complete training facilities and sufficient teachers to meet the teaching requirements.

Firstly, the teaching staff. The nursing college currently has more than 130 full-time and part-time teachers, of which more than 80% are "dual teacher" teachers, and more than 30% have senior professional titles. Most of the teachers are medical experts and backbone with a background in medical institutions. More than 20 teachers serve as chairpersons of various societies.

Secondly, the guarantee of training facilities and equipment. The nursing college training base covers an area of approximately 24000 square meters, with a total value of professional equipment and facilities of more than 20 million yuan, providing students with a fully equipped training and operation teaching environment. Before the start of the training course, the training center will purchase and prepare corresponding training consumables according to the teaching content to ensure the smooth implementation of the training course. At the same time, it is equipped with a modern OSCE Smart Skills Examination Center to ensure fairness and impartiality in the examination.

4.2 Input Evaluation Analysis

4.2.1 General information on students and teachers for Short-term Courses in Nursing Occupational Protection.

This study distributed 84 student's satisfaction survey questionnaires and interviewed 8 teachers. The students participating in this training come from two classes, totaling 84 people, with 4 boys and 80 girls, average age of 20.07 years old. 84 student's questionnaires were collected in this study, of which 84 were valid and had an effective response rate of 100%. 8 teachers interview questionnaires were collected, with an effective response rate of 100%.

General Information on Interviewed Teachers: There were a total of 8 female instructors participating in this training, aged 34-37, 5 teachers (62.5%); with a master's degree, 5 teachers (62.5%); ten years or more of work experience, 5 teachers (62.5%); associate professor title, 4 teachers (50%), and 8 teachers with vocational skill certificates. Four teachers (50%) have participated in training related to nursing occupational protection. General information can be found in Table 2

Table 2 General Information on Interviewed Teacher

N (n=8)	Age	Major studied	Education level	Hospital work experience	Title	Teaching experience	Vocational Skills Certificate	Nursing occupational protection training programs that have been participated in
A	35	Nursing	Master	4 years	Lecturer	Ten to fifteen years	Supervisor Nurse	No
B	37	Nursing	Bachelor	4 years	Lecturer	Ten to fifteen years	Supervisor Nurse	No
C	37	Nursing	Master	5 years	Lecturer	Ten to fifteen years	Supervisor Nurse	No
D	34	Nursing	Master	12 years	Hospital title: Supervisor Nurse	Two to five years	Supervisor Nurse	Occupational exposure and protection science popularization training
E	52	Nursing	Bachelor	17 years	Associate Professor	Fifteen years and over	Chief nurse	Occupational protection training for infectious diseases
F	49	Nursing	Bachelor	13 years	Associate Professor	Fifteen years and over	Deputy Chief Nurse	Occupational protection training for infectious diseases
G	40	Nursing	Master	16 years	Hospital title: Deputy Chief Nurse	Five to ten years	Deputy Chief Nurse	Occupational exposure and protection science popularization training
H	36	Nursing	Master	3 years	Associate Professor	Five to ten years	Supervisor Nurse	No

4.2.2 The input evaluation of student's opinions survey of students in the short-term courses in nursing occupational protection shows their opinions with the course content and objectives. The results are shown in Table 3:

Table 3 Input Evaluation Statistics of Student's Opinions Survey for Short-term Courses in Nursing Occupational Protection

Dimensionality	NO.	Questions for Student Satisfaction	Mean (M)	Standard Deviation (SD)	Coefficient of Variation (C.V)
Input Evaluation	1	The content of the course is good enough to help me master commonly used nursing occupational protection skills?	4.42	0.496	0.246
	2	The nursing occupational protection course has enabled me to better understand the importance of occupational protection	4.49	0.526	0.277
	3	There is a strong correlation between the learning content included in the course	4.39	0.560	0.314
	4	Carefully planned practical training courses to help students improve their nursing occupational protection skills	4.54	0.502	0.252
	5	The course content is suitable for nursing positions and in line with the latest developments in the discipline	4.52	0.502	0.252
	6	The course content is designed based on the objectives of the course	4.43	0.607	0.368
	7	The instructional materials is selected in a way that meets the objectives of the course	4.49	0.549	0.301
	8	The course description reflects the real material covered in the course	4.33	0.499	0.249
	9	The selection of teaching materials is in line with the course objectives	4.38	0.599	0.359
Sum			4.44	0.071	0.005

Note: 5 is "strongly agree", 4 is "agree", 3 is "neutral", 2 is "disagree", and 1 is "strongly disagree"

As shown in Table 3, the input evaluation indicators of student satisfaction all exceed 4, and the standard deviation is small, indicating that students have a relatively high overall satisfaction with the content

and objectives of the short-term nursing occupational protection training course.

4.2.3 Teachers' views on the goals and content dimensions of the project include two aspects of cognition.

Their views on issues related to course content: The teachers who participated in the interview believe that it is very important for nursing students to participate in nursing occupational protection training courses, with 7 teachers and one teacher being important. The nature of the course content mainly includes: practical courses, theoretical courses, and integrated courses of theory and practice, with 6 teachers; Integrated courses of theory and practice, 2 teachers. Seven teachers will conduct a learning situation analysis before the start of the course, and adjust the course content based on the learning situation analysis. One teacher, part-time teachers do not conduct a learning situation analysis. She will introduce typical cases based on the teaching content and clinical practice, and teach students the occupational protection content involved in their work. In terms of textbook selection, they will choose nationally planned textbooks based on talent development goals, teaching content, hospital job requirements, and learning situation analysis; For teaching activities, all teachers use two or more types of teaching activities, with the most commonly used being discussions with students and evaluations and suggestions on their practices, student demonstrations, and practical exercises; For teaching methods and strategies, all teachers use actual cases and protective equipment; In addition, 3 teachers also mentioned the use of simulated wards and professional literature in teaching. The arrangement of theoretical and practical hours for occupational protection courses is reasonable, with 5 teachers, and unreasonable, with 3 teachers.

Curriculum and Clinical Work-Related Issues: The content taught in the nursing occupational protection course has been frequently applied by 8 teachers, who have linked the problems encountered in clinical nursing work with the course content through case studies and scenario exercises. Nursing occupational protection is closely related to clinical nursing work, which also verifies the importance of nursing occupational protection training. By using practical cases and protective equipment in the classroom, theory and practice can be combined to improve learning outcomes.

4.3 Process evaluation Analysis

4.3.1 The process evaluation of student's opinions survey for students in the short-term courses in nursing occupational protection includes their opinions with teacher's qualifications, teaching methods, teaching materials, assignments, and exams. The results are shown in Table 4:

Table 4 Process Evaluation Statistics of Student's Opinions Survey for Short-term Courses in Nursing Occupational Protection

Dimensionality	NO.	Questions for Student Satisfaction	Mean (M)	Standard Deviation (SD)	Coefficient of Variation (C.V)
Prosess Evaluation	10	The teaching method of this course is very effective and helpful to me	4.10	0.670	0.449
	11	Combining new nursing technologies in the classroom for classroom innovation can arouse our interest	3.98	0.640	0.409
	12	The course PPT and blackboard design can help us clarify our knowledge structure	4.56	0.546	0.298

Table 4 (Continued)

Dimensionality	NO.	Questions for Student Satisfaction	Mean (M)	Standard Deviation (SD)	Coefficient of Variation (C.V)
Process Evaluation	13	I feel that my teachers are qualified and competent enough to teach the short term courses of nursing occupational protection	4.50	0.526	0.277
	14	Teachers use updated and electronic teaching methods	4.35	0.526	0.277
	15	The teaching standards of nursing occupational protection courses are close to the needs of nursing positions	4.43	0.587	0.344
	16	The textbooks and reference materials selected for nursing occupational protection courses are practical and easy to understand	4.05	0.638	0.407
	17	The course description reflects the real material covered in the course	4.31	0.620	0.385
	18	The operational items included in the course are related to future work requirements	4.33	0.646	0.418
	19	There is a close relationship between the knowledge involved in the course and students becoming excellent nurses	4.39	0.560	0.314
	20	I think the examination system in nursing occupational protection sessions is adequate	4.36	0.530	0.281
	21	The course will continuously evaluate the teaching process by publishing graded assignments to help me improve my learning outcomes	4.44	0.567	0.322
	22	The course emphasizes process evaluation	4.32	0.584	0.341

Table 4 (Continued)

Dimensionality	NO.	Questions for Student Satisfaction	Mean (M)	Standard Deviation (SD)	Coefficient of Variation (C.V)
Process Evaluation	23	The assessment methods and standards for the course will be notified in advance	4.64	0.482	0.232
	24	The course assessment covers the key and difficult points of the course	4.57	0.566	0.320
	25	The course assessment and evaluation method can reflect my learning effectiveness	4.42	0.542	0.294
	26	Course assessment and grading standards are fair and objective	4.63	0.485	0.236
Sum			4.38	0.190	0.036

As shown in Table 4, all indicators of the process evaluation of student satisfaction, except for question 11, exceed 4 points, and the standard deviation is small, indicating that students have a relatively high overall satisfaction with the teaching methods, teacher qualifications, assignments, and examination system of the nursing occupational protection short-term training course. Question 11, Combining new nursing technologies in the classroom for classroom innovation, with an average score of 3.98, students are not very satisfied.

4.3.2 Students' views on the process evaluation of the course

Difficulties encountered by students in nursing occupational protection course, the most common feedback issues were in the practical training course section, 31 students (36.90%); including insufficient practice time, 13 students (15.48%); unskilled operation, 7 students (8.33%) and increased training materials, 5 students (5.95%); 33 students (39.29%) have encountered difficulties without feedback. 84 Students (100%) gave positive feedback and learned a lot from this project,

including occupational protection knowledge and skills, through this training. 20 Students (23.81%) mentioned that, there is a need to establish occupational protection awareness, how to protect oneself, and prevent occupational exposure. 56 Students(66.67%) have provided feedback that there is no need to add additional teaching content; Mentioning to increase knowledge of infectious disease prevention and care, 5 students (5.95%); Types of protective equipment, improvements, and invention patent applications , 5 students (5.95%); What vaccines should be administered for self-protection in emergencies situations and occupational exposure , 2 students (2.38%); The most practical operation: handling needlestick injuries, 40 students (47.62%); Wear and take off protective clothing and isolation gowns , 14 students (16.67%); Correct hand washing method, 13 students (15.48%); Correctly wearing masks and gloves, 8 students (9.52%); Classification and treatment of medical waste, 4 students (4.76%); Simulated configuration of chemotherapy drugs, 4 students (4.76%).

4.3.2 Teacher's Overall View

5 Teachers believe that the arrangement of theoretical and practical hours for occupational protection courses is reasonable, while 3 teachers disagree. This means that teachers have not reached a unified opinion on the arrangement of course hours, and it needs to be re-formulated based on comprehensive considerations such as student feedback, learning ability, and learning progress. Exams and homework: 6 teachers use formative evaluation, summative evaluation, process evaluation to evaluate students. 4 Teachers use exams to evaluate students' progress, and 4 teachers believe that exams are just one way. If students can design or improve protective equipment during their studies,

it can also help them understand their progress. All teachers use graded assignments to assess students' learning progress, and students can also choose teacher-approved methods such as post-class test questions, recorded instructional videos, mind maps, and group discussions to evaluate their progress.

4.4 Product evaluation Analysis

4.4.1 The product evaluation of student's opinions survey for students in the short-term courses in nursing occupational protection with class hours, knowledge, training programs, and learning resources. The results are shown in Table 5:

Table 5 Product evaluation Statistics of Student's Opinion Survey for Short-term Courses in Nursing Occupational Protection

Dimensionality	NO.	Questions for Student Satisfaction	Mean (M)	Standard Deviation (SD)	Coefficient of Variation (C.V)
Product Evaluation	27	The teaching method of this course is very effective and helpful to me	4.08	0.732	0.535
	28	Combining new nursing technologies in the classroom for classroom innovation can arouse our interest	3.51	0.898	0.807
	29	The course PPT and blackboard design can help us clarify our knowledge structure	3.30	0.757	0.573
	30	I feel that my teachers are qualified and competent enough to teach the short term courses of nursing occupational protection	4.51	0.549	0.301
	31	Teachers use updated and electronic teaching methods	4.56	0.499	0.249
	32	The teaching standards of nursing occupational protection courses are close to the needs of nursing positions	4.50	0.570	0.325

Table 5 (Continued)

Dimensionality	NO.	Questions for Student Satisfaction	Mean (M)	Standard Deviation (SD)	Coefficient of Variation (C.V)
Product Evaluation	33	The textbooks and reference materials selected for nursing occupational protection courses are practical and easy to understand	4.51	0.503	0.253
	34	The course description reflects the real material covered in the course	4.45	0.568	0.323
	35	The operational items included in the course are related to future work requirements	4.38	0.675	0.456
	36	There is a close relationship between the knowledge involved in the course and students becoming excellent nurses	4.30	0.555	0.308
	37	Course assessment and grading standards are fair and objective	4.42	0.698	0.487
Sum			4.23	0.431	0.186

As shown in Table 5, all indicators of student satisfaction evaluation, except for questions 28 and 29, exceed 4 points with a small standard deviation, indicating that students are satisfied with the short-term training course on nursing occupational protection.

As shown in Table 5, The operational practice time for nursing occupational protection courses is sufficient (questions 28), with an average value of 3.51. Questions 29, The satisfaction rate of short-term coursesn for ursing occupational protection is 3.30 on average. From the above two points, it can be seen that students are not very satisfied with the practice time and course hours.

4.4.2 Students' views on Product Evaluation

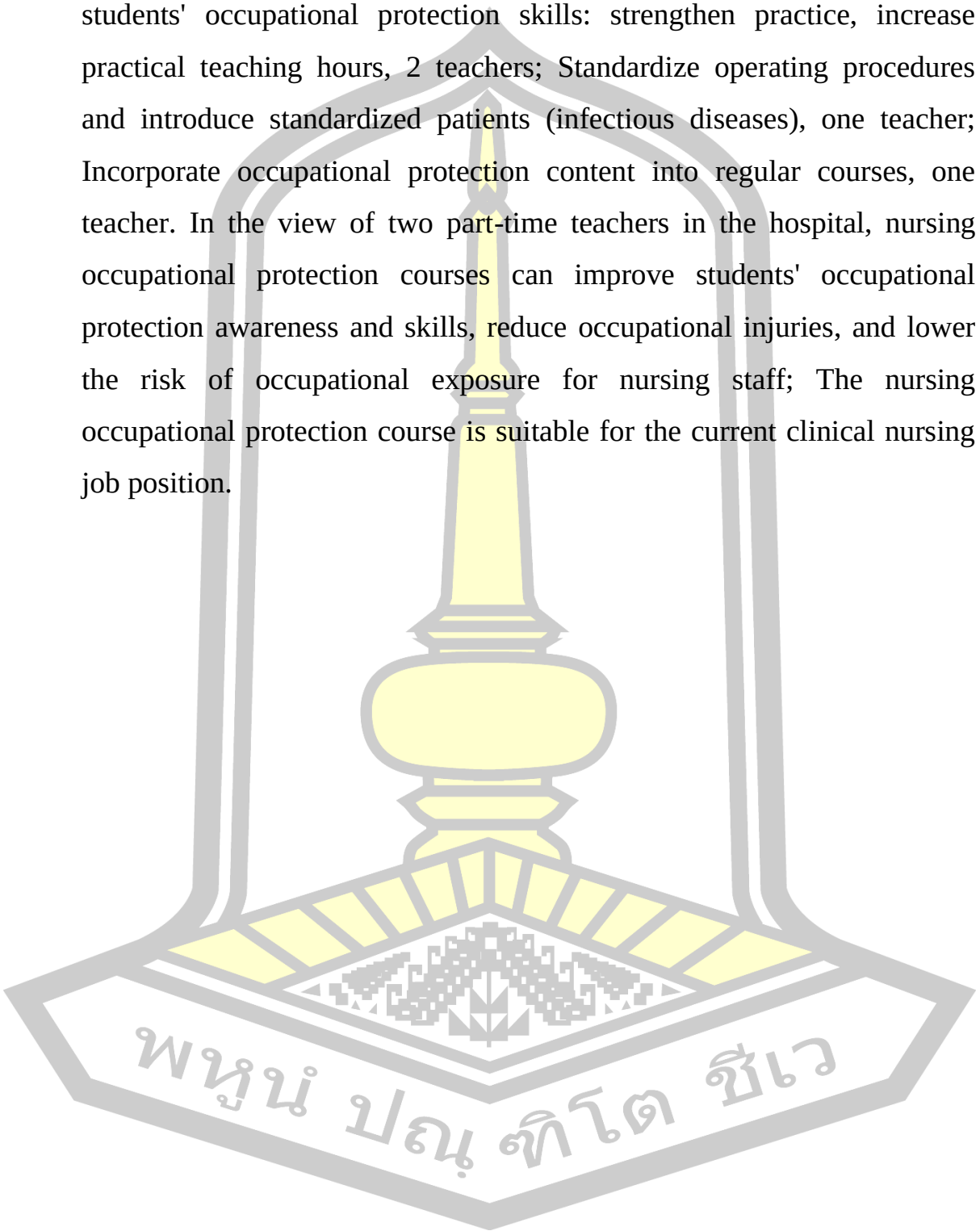
In the eyes of classmates, the most practical operations of this training include handling needlestick injuries, 40 students (47.62%);

wearing and removing protective clothing and isolation gowns, 14 students (16.67%); correct hand washing methods, 13 students (15.48%); correctly wearing masks and gloves, 8 students (9.52%); sorting and handling medical waste, and simulating the preparation of chemical therapy drugs, 4 students (4.76%). Suggestions from students on improving nursing occupational protection courses: 43 students (51.19%) feel satisfied with the project but have no improvement suggestions; Organize lectures, competitions, skill contests, etc. on occupational protection knowledge to gain knowledge and increase student participation, 7 students (8.33%); Practice more and operate hands-on, 7 students (8.33%); Enhance knowledge of infectious disease prevention ,6 students (7.14%); Carry out some occupational protection training as soon as possible and establish protection awareness earlier ,6 students (7.14%); Integrating occupational safety content into other disciplines for timely mastery during operation, 5 students (5.95%); Increase class hours, 4 students (4.76%).

4.4.3 Overall views of teachers on Product Evaluation

In the eyes of all teachers, students possess the necessary theoretical knowledge for this course. However, students are not yet allowed to engage in basic nursing work as they need to obtain a professional qualification certificate. This indicates that although students' knowledge and skills in occupational protection have been improved through this training, they still need to obtain a professional qualification certificate after clinical internship to become a true nurse. Three teachers proposed specific improvement suggestions for the training course: increasing the practice time for operations, 2 teachers; The practical part is combined with clinical practice and integrated into

virtual simulation teaching, with 1 teacher. Suggestions for improving students' occupational protection skills: strengthen practice, increase practical teaching hours, 2 teachers; Standardize operating procedures and introduce standardized patients (infectious diseases), one teacher; Incorporate occupational protection content into regular courses, one teacher. In the view of two part-time teachers in the hospital, nursing occupational protection courses can improve students' occupational protection awareness and skills, reduce occupational injuries, and lower the risk of occupational exposure for nursing staff; The nursing occupational protection course is suitable for the current clinical nursing job position.



CHAPTER V
CONCLUSION

Evaluation aims to improve, facilitating constructive feedback instead of mere assessment for its own sake. Therefore, evaluation results should be judiciously utilized for improvement, not as criteria for evaluating or promoting teachers' teaching capabilities and professional qualities (Hu & Li, 2022). This research seeks to explore the current state of short-term training in occupational safety for nurses, highlighting its strengths and weaknesses, to align with the needs and aspirations of stakeholders, particularly students and hospitals. The primary objective of this study is to assess and engage in conversations with students and instructors involved in short-term training programs for nursing occupational protection, aiming to understand the current state of the programs and suggest necessary enhancements. This is a foundation for ongoing improvements in nursing occupational protection training courses.

5.1 Current situation analysis of short-term training courses in nursing occupational protection

We need to improve the protective awareness and skills of nursing students through short-term courses on nursing occupational protection. Most of the course content is practical training, which requires higher infrastructure, equipment, and materials for the training site. Therefore, background assessment is particularly important. It can help us understand whether schools have the ability and resources to provide nursing occupational protection courses for nursing students, and whether

the setting of project goals is based on the analysis of student and hospital needs, thereby providing a basis for the input, process, and result evaluation of the project.

Student's Views with short-term training courses in nursing occupational protection. From the three dimensions of course evaluation, the overall satisfaction with the course is relatively high. Students quite satisfied with teachers' qualifications, course content, course objectives, teaching methods, teaching materials, assignments and exams, as well as content related to clinical nursing work. Based on the results of teacher interviews, we can find that the overall satisfaction with this course is high in the following aspects.

Teacher's Qualification: 8 teachers have clinical work experience, including both medical related vocational skill level certificates and teacher qualification certificates, with rich teaching experience. Half of the teachers have participated in nursing occupational protection training. In addition to nursing school teachers, clinical experts from hospitals also participate in teaching, ensuring the quality of teaching.

Course content design: Prior to teaching, the teacher conducted an in-depth analysis of the students' situation and adjusted the teaching content based on the analysis of the students' situation. The course content is rich and covers all necessary knowledge points. The course content combines practical cases, making it easier for students to understand and apply them to nursing work.

Teaching methods and techniques: All teachers adopt two or more teaching methods, such as discussing with students, demonstrating, practicing, and evaluating and providing suggestions for students' practices. In the classroom, effectively utilize teaching PPTs, learning

apps, and operation flowcharts. Teachers can provide students with a real and safe practical environment by using demonstration teaching methods, practical case teaching, and combining simulated wards and protective equipment.

Teaching materials: They choose nationally planned textbooks based on talent development goals, teaching content, hospital work requirements, and learning situation analysis, which can ensure that the teaching content keeps pace with the times and meets the needs of educational development.

Homework and exams: Teachers use formative assessment, summative assessment, and formative assessment to conduct teaching evaluations. A sound examination and evaluation system can comprehensively assess students' mastery of knowledge and skills. Half of the teachers believe that exams are just a way. If students can design or improve protective equipment during their studies, it will also help to understand their progress. All teachers use graded assignments to assess students' learning progress, and students can also choose teacher approved methods such as post class quizzes, recorded instructional videos, mind maps, and group discussions to evaluate their progress. This means that exams are not the only criterion for testing students' learning progress. In addition to exams, these methods can also provide a more comprehensive assessment of students' abilities, helping them develop critical thinking, teamwork, and problem-solving skills. Content related to clinical nursing work: The content taught in nursing occupational protection courses is often very practical in clinical nursing work.

Teachers connect the problems encountered in clinical nursing work with the course content through case analysis and scenario

exercises. Nursing occupational protection is closely related to clinical nursing work, which also verifies the importance of nursing occupational protection training. By using practical cases and protective equipment in the classroom, theory and practice can be combined to improve learning outcomes.

Although the overall satisfaction with the course is relatively high, some shortcomings of the course have also been reflected through student surveys and teacher interviews. In terms of curriculum innovation, it should be in line with students' development and focus on cultivating their innovative thinking and practical abilities. The curriculum should also focus on heuristic teaching, encourage students to think from multiple perspectives, create a creative classroom atmosphere, and combine education with life to encourage students to creatively solve problems. This means that teaching methods need to break through traditional thinking patterns, explore new ideas and approaches from new perspectives and viewpoints, and introduce new teaching concepts and technologies to improve teaching quality.

5.2 Open views of teachers and students on short-term training courses for nursing occupational protection

The students learned protective knowledge and skills through this training. They learned how to protect themselves and prevent occupational exposure in nursing work. Students believe that the most practical operation is the handling of needlestick injuries. According to a survey by Chen Ping et al. (2020), sharp instrument injuries are the most common form of exposure in China, with needles being the main sharp instrument causing injuries. Among them, nursing staff have the highest

incidence rate, accounting for 67.75%. Another survey found that 84.7% of nursing staff had experienced needlestick injuries, with an average of 2.5 injuries per person per year. (Liu, et al., 2010) Learning how to deal with needlestick injuries can enhance students' practical skills and emergency response abilities, enabling them to quickly and effectively respond to unexpected situations such as needlestick injuries. Secondly, by studying the handling of needlestick injuries, nursing students can gain a deeper understanding of the importance of occupational protection, enhance their self-protection awareness, and thereby reduce the risk of contracting diseases due to needlestick injuries in their future work. In the eyes of students, using a combination of multiple teaching methods in nursing occupational protection teaching is easier for them to grasp the course content, with the most commonly mentioned being the demonstration teaching method. Demonstration teaching method, through the teacher's action demonstration, enables students to intuitively understand and master nursing skills, which helps to improve students' clinical operation ability and decision-making ability. The demonstration teaching method can also promote students' teamwork spirit, as during the demonstration process, students often need to collaborate with each other and complete tasks together, thereby enhancing their communication and teamwork abilities. Teachers use two or more teaching methods that are consistent with students' statements. Research has shown that applying scenario simulation teaching to occupational exposure and protection education for medical students can enhance their awareness of occupational safety protection and emergency response capabilities for occupational exposure. When students were asked what additional content should be added to the course, most of them replied that there was

no need to add any extra teaching content. However, some students mentioned increasing knowledge of infectious disease prevention and care, improving the types of protective equipment, and applying for invention patents. At present, with the continuous expansion and application of new clinical technologies and the increasing risk of emerging infectious diseases, the occupational hazard exposure problem faced by Chinese medical personnel has become more complex and severe. As the reserve force of medical workers, medical students also face future occupational exposure problems. Moreover, medical students who are new to clinical practice are more prone to occupational exposure and injury due to their lack of proficiency in clinical skills, insufficient protective experience, and weak awareness of protection (Gao, et al., 2017). In terms of increasing course content, students suggest adding knowledge on infectious disease prevention. For nursing students, they can start some occupational protection training as early as possible to establish a sense of protection earlier. The teacher also mentioned the introduction of standardized patients (infectious patients) in practical training courses, and some courses can be integrated into virtual simulation teaching. The project developer needs to analyze the students' situation, examine the nature and tasks of the course, evaluate the effectiveness of existing teaching methods, etc., in order to determine whether adjustments to the course content are needed to improve teaching effectiveness. Schools can also organize activities such as occupational protection knowledge competitions and occupational exposure control publicity weeks to enhance the occupational protection awareness and ability of medical students, prevent the shift of barriers, and protect the health of the new generation of medical staff.

The most common problems encountered by students in nursing occupational protection courses are in the practical training section. They reported that insufficient practice time resulted in unskilled operation, and some students wanted to increase practical training materials. The main reasons for students' lack of proficiency in operation include the following: firstly, improper learning methods and strategies, such as the lack of scientifically effective learning methods and strategies, or the absence of a reasonable learning plan; Secondly, there is a lack of practical experience. Nursing is a highly practical profession, and a lack of clinical operational experience can lead to a disconnect between theory and practice; The third is work pressure and time constraints, with heavy learning tasks and tight schedules, which may affect students' full engagement in learning and practice; Fourthly, there is a lack of personal interest and motivation, as well as a lack of enthusiasm and initiative in learning; Fifth, there is a lack of training and educational resources, making it impossible to obtain comprehensive and systematic skills training. From this, it can be seen that there are many reasons for lack of proficiency in operation, which may be related to insufficient training hours. Some teachers also pointed out that the theoretical and practical time arrangement of nursing occupational protection courses is unreasonable, which means that teachers have not reached a unified opinion on the arrangement of class hours. Teachers also suggest strengthening students' practical exercises, increasing practical teaching hours, standardizing operational procedures, and integrating occupational protection content into regular courses. The project developers need to re evaluate and adjust the teaching plan based on feedback from students and teachers, taking into account students' learning abilities, progress,

etc., to ensure sufficient practical time and total class hours. Insufficient training materials can be supplemented and updated in a timely manner according to specific actual situations. Suggestions for improving nursing occupational protection courses from students include organizing lectures, competitions, and skill contests on occupational protection knowledge to increase student participation while acquiring knowledge. It is hoped that students can practice more and engage in hands-on activities. They suggest integrating occupational safety content into other disciplines to facilitate timely mastery during the operation process. Clinical experts believe that nursing occupational protection courses are suitable for current clinical nursing positions. Through this training, students not only improve their occupational protection skills but also enhance their awareness of protection. In future nursing work, it can reduce occupational injuries and occupational exposure of nursing staff. In the eyes of the teaching staff, through this training, students have acquired corresponding protective knowledge and skills, but they still need to obtain professional qualification certificates after clinical internships in order to become true nurses.

In summary, after a systematic course evaluation, the results showed that participants' satisfaction with the course reached a high level. The short-term training course on nursing occupational protection is highly favored by students. The arrangement of teaching staff is reasonable. Teachers not only have rich teaching experience, but also strong teaching abilities, accurate knowledge explanation, reasonable teaching design, always taking students as the main body, emphasizing self-directed learning, group communication and discussion, and other forms of cooperation between teachers and students, achieving good

learning results. The classroom atmosphere is lively, and students are able to actively participate in the class, with a strong interest in learning. At the same time, teachers can teach according to the characteristics of students, using various teaching methods and means to stimulate students' interest and creativity. This is a carefully designed, effectively implemented, and highly popular course among students. This positive feedback not only validates the attractiveness and practicality of the course content, but also fully demonstrates the effectiveness of teaching methods and course organization. Given the significant positive evaluation results and the strong willingness of participants to continue the course, this study believes that the course has extremely high continuing value. Therefore, it is recommended to continue offering this course in the future to meet the needs of more learners and further optimize the course content and teaching methods in order to achieve better educational outcomes.

5.3 Shortcomings in this study

The questionnaire survey in this study was only conducted in two classes of vocational nursing, with a small number of respondents and incomplete questionnaire design; In addition, only 8 teachers who taught were selected in the teacher interviews, so the results of the interview survey may be random and cannot fully represent all students and teachers.

During the teaching process, there are too many uncertain and uncontrollable factors such as time, venue, equipment, etc., and the influence of other irrelevant variables cannot be controlled, which may lead to biased survey results.

The results are easily influenced by human factors, and the interview results may be affected by subjective factors of the researchers, resulting in subjective biases in feedback.

This study provides theoretical support and clear direction for future research, but it has not yet been put into practice and lacks practical verification.

5.4 Suggestions

5.4.1 Suggestions for course evaluation results

Corresponding strategies need to be adopted to improve the overall quality and effectiveness of curriculum evaluation based on feedback from teachers and students. Regarding innovative research on course content, based on the evaluation results, it is recommended to conduct in-depth research on how to update and enrich course content. Attention should be paid to new developments in the medical field, and course content should be updated in a timely manner to make it more in line with the current forefront of disciplinary development and the actual needs of hospitals. Explore the possibility of integrating emerging technologies, hot topics, or interdisciplinary knowledge into the curriculum. Ensure that students master the latest knowledge and skills in protective measures. In terms of practical teaching, it is necessary to meet the needs of students for practical teaching materials. Insufficient practical training hours, need to increase practical training hours, can be increased from these aspects. Firstly, students can apply for evening self-study to practice occupational protection skills. If they still cannot achieve proficient operation through self-study classes, the goal of standardizing the operation process can be to increase the practical

training hours taught by teachers. The specific implementation still needs to be comprehensively considered by project developers. In terms of adding course content, students can focus on learning about the relevant protective knowledge of infectious disease nursing. Occupational protection knowledge should be integrated into other subject courses, starting to establish occupational protection awareness when our students are exposed to nursing skills operations and simulated ward training. The nursing college can use lectures to share ideas with students on improving the types of protective equipment and applying for invention patents. Not only can it stimulate students' innovative thinking, but it can also encourage them to explore new ideas and solutions. By understanding the process of invention and creation, students can learn how to apply theoretical knowledge to practice and cultivate problem-solving skills. Lectures can help students understand the importance of patent applications and how to protect their innovative achievements, which is beneficial for their future academic and career development. Such lectures may also enhance students' social recognition, boost their confidence and competitiveness, and provide them with more opportunities for further education, employment, and entrepreneurship. Therefore, this aspect of content is more suitable for presentation in this way. The course content closely follows the trend of disease outbreaks, and project developers should closely monitor the annual changes in disease prevalence and high incidence rates, and adjust the course content and class hour allocation based on these data. Adjusting the content and duration of medical courses is a complex and systematic project that requires full consideration of the interests and needs of all parties involved. During the adjustment process, opinions from teachers,

students, and medical institutions should be widely solicited to ensure the scientific and rational nature of the adjustment plan. At the same time, it is necessary to strengthen the monitoring and evaluation of teaching quality to ensure that the adjusted teaching effect achieves the expected goals.

5.4.2 Suggestions for future research directions

This course is a short-term training course, and it is recommended to conduct the entire process of Knowledge, Attitude/Belief, Practice, systematic medical occupational exposure, and safety protection education under the guidance of the Knowledge-Attitude/Belief-Practice theory model. Through the whole process education of curriculum offered by the school, standardized operation of on campus practical training, real experience of internship, strengthened training before internship, and strict supervision during the internship process, the effect of learning knowledge, firm beliefs, and standardized behavior is achieved to guide interns to turn occupational safety protection into a conscious behavior, thereby effectively improving the occupational protection awareness and safety protection skills of medical interns.

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APPENDIX

Appendix A

IOC Result of the Survey Questionnaire for Students on Nursing Occupational Protection Training

Part One (Students' opinions): This section aims to understand students' satisfaction and opinions on the textbook and course objectives, teaching methods and evaluations, nursing occupational protection courses, teacher qualifications, course theory and practical quantity.

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
1	The content of the course is good enough to help me master commonly used nursing occupational protection skills?	+1	+1	+1	+1	+1	5	1	selected
2	The nursing occupational protection course has enabled me to better understand the importance of occupational protection	+1	+1	+1	+1	+1	5	1	selected
3	There is a strong correlation between the learning content included in the course	+1	+1	+1	+1	+1	5	1	selected
4	Carefully planned practical training courses to help students improve their nursing occupational protection skills	+1	+1	+1	+1	0	4	0.8	selected
5	The course content is suitable for nursing positions and in line with the latest developments in the discipline	+1	+1	+1	+1	+1	5	1	selected
6	The course content is designed based on the objectives of the course	+1	0	+1	+1	+1	4	0.8	selected
7	The learning content provided by the teacher on the learning platform is already sufficient	0	+1	-1	0	-1	-1	-0.2	deleted
8	The instructional materials is selected in a way that meets the	+1	+1	+1	+1	+1	5	1	selected

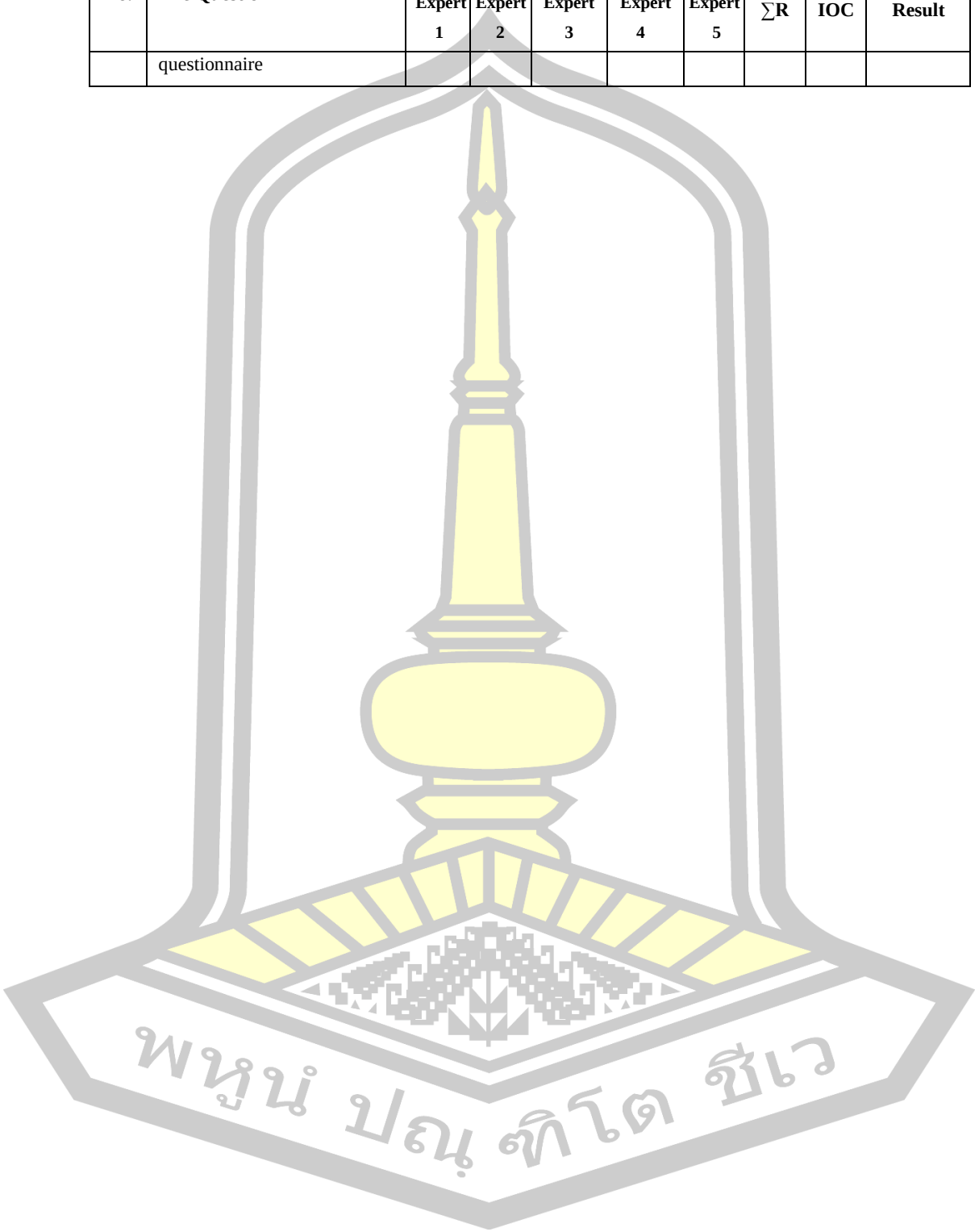
No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	objectives of the course								
9	The course description reflects the real material covered in the course	+1	+1	+1	+1	+1	5	1	selected
10	The matching degree between course content and course objectives is very high	+1	+1	+1	0	+1	4	0.8	selected
11	I think the teaching materials provided by the teacher are already sufficient	+1	0	+1	-1	-1	0	0	deleted
12	The teaching method of this course is very effective and helpful to me	+1	+1	+1	+1	+1	5	1	selected
13	Combining new nursing technologies in the classroom for classroom innovation can arouse our interest	+1	+1	+1	+1	+1	5	1	selected
14	The course PPT and blackboard design can help us clarify our knowledge structure	+1	+1	+1	+1	+1	5	1	selected
15	I feel that my teachers are qualified and competent enough to teach the short term courses of nursing occupational protection	+1	+1	+1	+1	+1	5	1	selected
16	I think the instructor can answer my questions in a timely manner	0	-1	0	-1	+1	-1	-0.2	deleted
17	Teachers use updated and electronic teaching methods	+1	+1	+1	+1	+1	5	1	selected
18	I think the demonstration operation by the practical training teacher is very standardized.	-1	0	0	+1	-1	-1	-0.2	deleted

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
19	The teaching standards of nursing occupational protection courses are close to the needs of nursing positions	+1	+1	+1	+1	+1	5	1	selected
20	The textbooks and reference materials selected for nursing occupational protection courses are practical and easy to understand	+1	+1	+1	+1	+1	5	1	selected
21	I think the examination system in nursing occupational protection sessions is adequate	+1	+1	+1	+1	+1	5	1	selected
22	The course description reflects the real material covered in the course	+1	+1	+1	+1	+1	5	1	selected
23	The courses included in the curriculum are relevant to the future job needs	+1	+1	+1	0	+1	4	0.8	selected
24	There is a close relationship between the knowledge involved in the course and students becoming excellent nurses	+1	+1	+1	+1	+1	5	1	selected
25	The course will continuously evaluate the teaching process by publishing graded assignments to help me improve my learning outcomes	+1	+1	+1	+1	+1	5	1	selected
26	The course emphasizes process evaluation	0	+1	+1	+1	+1	4	0.8	selected
27	The assessment methods and standards for the								

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	course will be notified in advance	+1	+1	+1	+1	+1	5	1	selected
28	The course assessment covers the key and difficult points of the course	+1	+1	+1	+1	+1	5	1	selected
29	The course assessment and evaluation method can reflect my learning effectiveness	+1	+1	+1	+1	0	4	0.8	selected
30	Course assessment and grading standards are fair and objective	+1	+1	+1	+1	+1	5	1	selected
31	The theories included in teaching are sufficient	+1	+1	+1	+1	+1	5	1	selected
32	The operating practice time for nursing occupational protection courses is sufficient	+1	+1	+1	+1	+1	5	1	selected
33	I am satisfied with the duration of the short-term nursing occupational protection course	+1	0	+1	+1	+1	4	0.8	selected
34	The classroom environment is very conducive to learning	+1	+1	+1	+1	+1	5	1	selected
35	I have acquired a wealth of relevant knowledge and the results have been improved	+1	+1	+1	+1	+1	5	1	selected
36	I am satisfied with classroom interaction	-1	+1	0	-1	0	-1	-0.2	deleted
37	I am satisfied with the amount of homework for this course	0	-1	+1	-1	-1	-2	-0.4	deleted
38	I am satisfied with the knowledge gained at the end of the course	+1	+1	+1	+1	+1	5	1	selected

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
39	Overall, I am satisfied with the entire training course	+1	+1	+1	+1	+1	5	1	selected
40	The selected textbook is relevant and appropriate to the selected course	+1	+1	+1	+1	+1	5	1	selected
41	I am satisfied with the learning resources	+1	+1	+1	+1	+1	5	1	selected
42	I understand and master the course content	+1	+1	+1	+1	+1	5	1	selected
43	The training facilities, equipment, and consumables can fully meet the needs of practical teaching	+1	+1	0	+1	+1	4	0.8	selected
Part 2 (Overall Open Opinion of Students)									
1	What difficulties did you encounter in nursing occupational protection courses	+1	0	+1	+1	+1	4	0.8	selected
2	What have you learned from these courses?	+1	+1	+1	+1	+1	5	1	selected
3	In addition to the content learned in this course, what other content do you think should be added	+1	+1	+1	+1	0	4	0.8	selected
4	What do you think are the most useful protective skills in these courses	+1	+1	+1	+1	+1	5	1	selected
5	On your opinion, what teaching methods are easier for you to master in nursing occupational protection teaching	+1	+1	+1	+1	+1	5	1	selected
6	What suggestions do you have for improving nursing occupational protection courses besides what was mentioned in the	+1	+1	+1	0	+1	4	0.8	selected

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
	questionnaire								



Appendix B

Survey Questionnaire for Students

Survey Questionnaire for Students

Survey on Students' Opinions on Short-term Courses In Nursing Occupational Protection

This questionnaire is part of study undertaken for the purpose of improving the occupational protection skills of nursing students who are about to intern in hospitals about the "Evaluation of short term courses of nursing occupational protection ". The study is being taken in SiChuan Vocational College of Health and Rehabilitation(SVCHR) ,SiChuan Province,China.

I would like to ask you some questions about whether you are satisfied or not with the material and the short term courses of nursing occupational protection you studied. It was also hoped to see whether you think those courses gave you the nursing occupational protection skills you needed to take nursing works.

It will take between 15-20 minutes only to complete the questionnaire. Please do not feel obliged to answer a question if you do not wish to, though I assure you that your response will be completely anonymous and will only be used for the purpose of this academic research.

Please do not hesitate to ask any question and feel free to add you.

Researcher: Yan Zhu

Advisor: Asst.Prof.Dr. Kanyarat Sonsupap

For correspondence:

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Part one: Students' Opinions

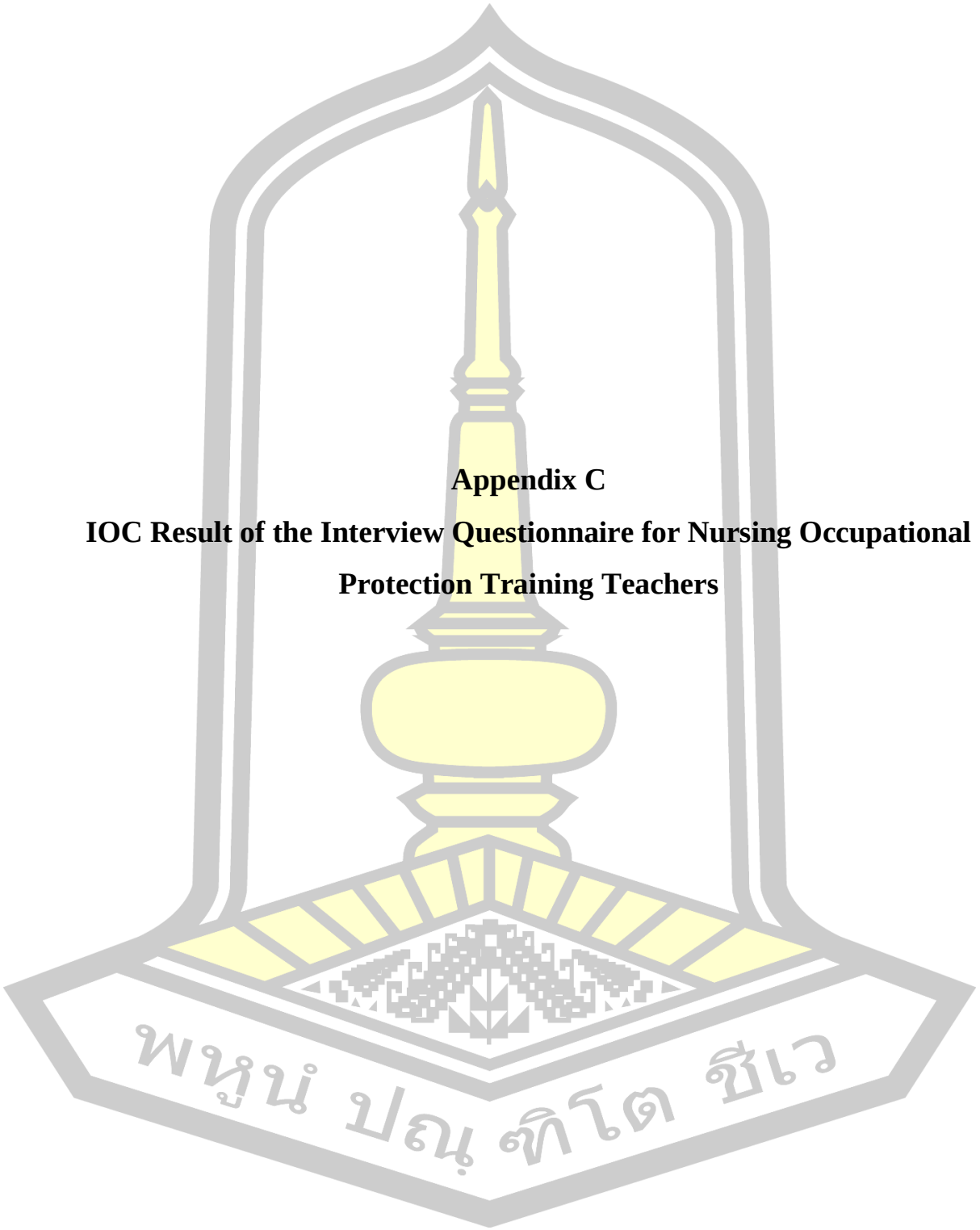
No.	The Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	The content of the course is good enough to help me master commonly used nursing occupational protection skills?					
2	The nursing occupational protection course has enabled me to better understand the importance of occupational protection					
3	There is a strong correlation between the learning content included in the course					
4	Carefully planned practical training courses to help students improve their nursing occupational protection skills					
5	The course content is suitable for nursing positions and in line with the latest developments in the discipline					
6	The course content is designed based on the objectives of the course					
7	The instructional materials is selected in a way that meets the objectives of the course					
8	The course description reflects the real material covered in the course					
9	The matching degree between course content and course objectives is very high					
10	The teaching method of this course is very effective and helpful to me					
11	Combining new nursing technologies in the classroom for classroom innovation can arouse our interest					
12	The course PPT and blackboard design can help us clarify our knowledge structure					
13	I feel that my teachers are qualified and competent enough to teach the short term courses of nursing occupational protection					
14	Teachers use updated and electronic teaching methods					

No.	The Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15	The teaching standards of nursing occupational protection courses are close to the needs of nursing positions					
16	The textbooks and reference materials selected for nursing occupational protection courses are practical and easy to understand					
17	The course description reflects the real material covered in the course					
18	The operational items included in the course are related to future work requirements					
19	There is a close relationship between the knowledge involved in the course and students becoming excellent nurses					
20	I think the examination system in nursing occupational protection sessions is adequate					
21	The course will continuously evaluate the teaching process by publishing graded assignments to help me improve my learning outcomes					
22	The course emphasizes process evaluation					
23	The assessment methods and standards for the course will be notified in advance					
24	The course assessment covers the key and difficult points of the course					
25	The course assessment and evaluation method can reflect my learning effectiveness					
26	Course assessment and grading standards are fair and objective					
27	The theories included in teaching are sufficient					
28	The operating practice time for nursing occupational protection courses is sufficient					
29	I am satisfied with the duration of the short-term nursing occupational protection course					
30	The classroom environment is very conducive to learning					
31	I have acquired a wealth of relevant knowledge and the results have been improved					
32	I am satisfied with the knowledge gained at the end of the course					

No.	The Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
33	Overall, I am satisfied with the entire training course					
34	The selected textbook is relevant and appropriate to the selected course					
35	I am satisfied with the learning resources					
36	I understand and master the course content					
37	The training facilities, equipment, and consumables can fully meet the needs of practical teaching					

Part 2 (Overall Open Opinion of Students):

1. What difficulties did you encounter in nursing occupational protection courses?
2. What have you learned from these courses?
3. In addition to the content learned in this course, what other content do you think should be added?
4. What do you think are the most useful protective skills in these courses?
5. On your opinion, what teaching methods are easier for you to master in nursing occupational protection teaching?
6. What suggestions do you have for improving nursing occupational protection courses besides what was mentioned in the questionnaire?



Appendix C

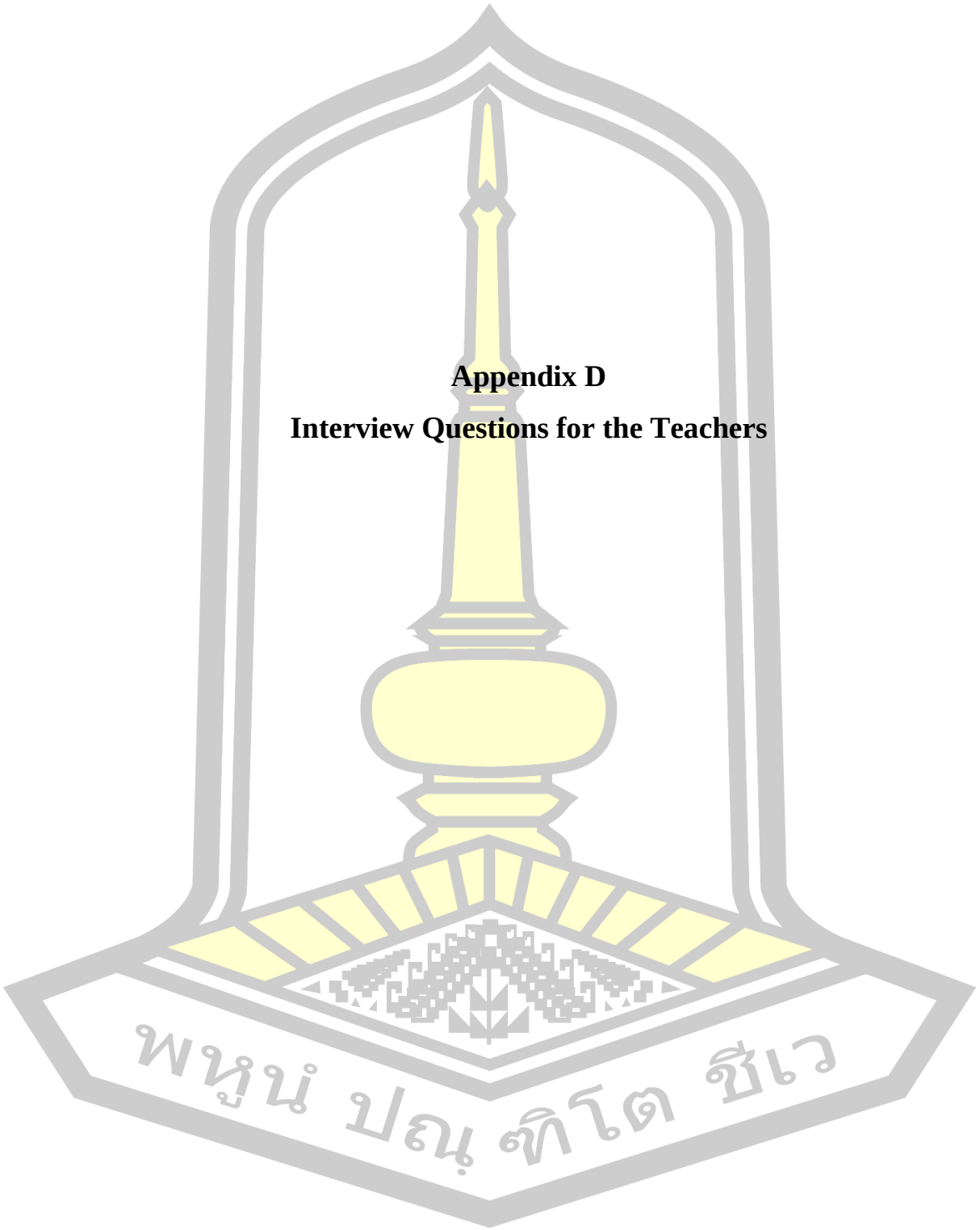
IOC Result of the Interview Questionnaire for Nursing Occupational Protection Training Teachers

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
1	What is your major in university	+1	+1	+1	+1	+1	5	1	selected
2	What is your highest level of education	+1	+1	+1	+1	+1	5	1	selected
3	Do you have any clinical work experience, and if so, how many years have you worked	+1	+1	+1	+1	+1	5	1	selected
4	What status do you have at the university where you have given your course	+1	+1	+1	+1	+1	5	1	selected
5	How many years have you taught	+1	+1	+1	+1	+1	5	1	selected
6	Do you have any relevant medical professional skills certificates	+1	+1	+1	+1	+1	5	1	selected
7	Have you participated in any training related to nursing occupational protection	+1	+1	+1	+1	+1	5	1	selected
8	According to you, occupational protection for nursing students trained by teachers, is:	+1	+1	+1	+1	+1	5	1	selected
9	The nature of course content mainly includes:	+1	+1	+1	+1	+1	5	1	selected
10	Do you conduct a learning situation analysis before the course starts?	+1	+1	+1	0	+1	4	0.8	selected
11	Will you adjust the course content based on the analysis of the learning situation?	+1	+1	+1	+1	+1	5	1	selected
12	What do you think needs to be added or improved in the course	0	-1	0	0	-1	-2	-0.4	deleted

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
13	How did you choose the textbook	+1	+1	+1	+1	+1	5	1	selected
14	Which activity do you most rely on in nursing occupational protection classes	+1	+1	+1	0	+1	4	0.8	selected
15	What teaching methods and strategies did you use in nursing occupational protection courses	0	+1	+1	+1	+1	4	0.8	selected
16	What methods do you think can further improve teaching effectiveness	-1	-1	0	0	+1	-1	-0.2	deleted
17	Do you think the arrangement of theoretical and practical hours in occupational protection courses is reasonable	+1	+1	+1	+1	+1	5	1	selected
18	Do you often apply the content taught in nursing occupational protection courses in clinical nursing work	+1	+1	+1	+1	+1	5	1	selected
19	How do you relate the problems encountered in clinical nursing work to the course content	+1	+1	+1	+1	+1	5	1	selected
20	Is the course designed based on course objectives	+1	+1	+1	+1	0	4	0.8	selected
21	You assess the progress of students with exams	+1	+1	+1	+1	+1	5	1	selected
22	You assess students' progress using graded assignments	+1	0	+1	+1	+1	4	0.8	selected
23	Students can choose from various methods and instruments to assess their progress	+1	+1	+1	0	+1	4	0.8	selected
24	There are strict grading standards for student skill assessment	+1	0	+1	+1	+1	4	0.8	selected

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
25	What are the main methods you use for evaluating course teaching	+1	+1	+1	0	+1	4	0.8	selected
26	What is the format and proportion of course assessment	+1	+1	+1	+1	0	4	0.8	selected
27	The strengths of the program are:	+1	+1	+1	+1	+1	5	1	selected
28	How do you evaluate the implementation effectiveness of current occupational protection courses	+1	-1	-1	0	-1	-2	-0.4	deleted
29	What aspects should schools pay attention to in their short-term training courses on nursing occupational protection	+1	+1	0	+1	+1	4	0.8	selected
30	What is the most important training needed to improve students' nursing occupational protection skills	+1	+1	+1	+1	+1	5	1	selected
31	You think, in general, students have the theoretical knowledge necessary for the course	+1	+1	+1	+1	+1	5	1	selected
32	You think, in general, students have corresponding protective skills in nursing occupational protection and can engage in basic nursing work	+1	+1	+1	+1	+1	5	1	selected
33	What are the key points of improving the program if necessary	+1	0	+1	+1	+1	4	0.8	selected
34	What suggestions do you have for improving students' occupational protection skills	+1	+1	+1	+1	+1	5	1	selected

No.	The Question	Expert's Opinion					∑R	IOC	Result
		Expert 1	Expert 2	Expert 3	Expert 4	Expert 5			
35	How to effectively enhance students' awareness of protection in occupational protection courses	0	0	+1	+1	0	2	0.4	deleted
36	Nursing occupational protection courses can enhance students' awareness of occupational protection and reduce occupational injuries （Answer from part-time hospital teachers）	+1	+1	+1	+1	+1	5	1	selected
37	Short term training courses on nursing occupational protection can effectively reduce the occupational exposure of nursing staff （Answer from part-time hospital teachers）	+1	+1	+1	+1	+1	5	1	selected
38	Is the nursing occupational protection course suitable for current clinical nursing positions? （Answer from part-time hospital teachers）	+1	+1	+1	+1	+1	5	1	selected



Appendix D

Interview Questions for the Teachers

Evaluation of short-term courses of nursing occupational protection

This questionnaire is part of study undertaken for the purpose of improving the occupational protection skills of nursing students who are about to intern in hospitals about the “Evaluation of short-term courses of nursing occupational protection ”. The study is being taken in SiChuan Vocational College of Health and Rehabilitation(SVCHR) ,SiChuan Province,China.

I would like to ask you some questions about assessment methods, texts used in class, programs, courses, students, teaching strategies, training and experience in teaching, education.

It will take between 15-20 minutes only to complete the questionnaire. Please do not feel obliged to answer a question if you do not wish to, though I assure you that your response will be completely anonymous and will only be used for the purpose of this academic research.

Please do not hesitate to ask any question and feel free to add you.

Researcher: Yan Zhu
Advisor: Asst.Prof.Dr. Kanyarat Sonsupap

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Part 1: General Information (Teacher's Personal Resume)

1.What is your major in university?

2. What is your highest level of education?

( ) Bachelor

( ) Master

( ) Doctorate / Ph.D.

( ) Other (specify):

3. Do you have any clinical work experience, and if so, how many years have you worked?

4. What status do you have at the university where you have given your course?

( ) Teaching assistant

( ) Lecturer

( ) Associate Professor

( ) Professor (Full Professor)

( ) Other (specify):

5. How many years have you taught?

( ) Less than two years

( ) Two to five years

( ) Five to ten years

( ) Ten to fifteen years

( ) Fifteen years and over

6. Do you have any relevant medical professional skills certificates?

( ) Nurse

( ) Supervisor Nurse

( ) Deputy Chief Nurse

( ) Chief nurse

( ) Other (specify):

7.Have you participated in any training related to nursing occupational protection?

( ) No.

( ) Yes. Please provide specific training programs or names

Part Two: Questions related to the program

8. According to you, occupational protection for nursing students trained by teachers, is:

( ) Very important.

( ) Important.

( ) Large enough.

( ) Not very important.

( ) Not important.

9. The nature of course content mainly includes: multiple choice questions

( ) Practice.

( ) Theoretical.

( ) Theoretical and practical.

10. Do you conduct a learning situation analysis before the course starts?

( ) Yes

( ) No

11. Will you adjust the course content based on the analysis of the learning situation?

( ) Yes

( ) No

12. How did you choose the textbook?

13、Which activity do you most rely on in nursing occupational protection classes? (multiple answers)

①Discussing with students ② Operating exercises③Student presentations④Evaluation and advice on students' practice ⑤Others ( )

14. What teaching methods and strategies did you use in nursing occupational protection courses? (multiple answers)

①Actual case ② Protective equipment ③ Simulated ward ④ Professional literature (legal

regulations, operation process manuals, etc.) ⑤ Others ( )
15. Is the course designed based on course objectives?
16. Do you often apply the content taught in nursing occupational protection courses in clinical nursing work?
17. How do you relate the problems encountered in clinical nursing work to the course content?
18. Do you think the arrangement of theoretical and practical hours in occupational protection courses is reasonable?
() Yes
() No, how can we improve it?
19. You assess the progress of students with exams.
( ) Yes
( ) No
20. You assess students' progress using graded assignments.
( ) Yes
( ) No
21. Students can choose from various methods and instruments to assess their progress (eg.:Group collaboration to record operation videos ,Complete the after-school test questions).
( ) Yes. Which?
( ) No
22. There are strict grading standards for student skill assessment
() Yes
() No
23. What are the main methods you use for evaluating course teaching? (multiple answers)
① Diagnostic evaluation ②Formative evaluation ③ Summative evaluation④Procedural evaluation⑤ others ()
24. What is the format and proportion of course assessment?
25. The strengths of the program are:
26.What aspects should schools pay attention to in their short-term training courses on nursing occupational protection? (multiple answers)
① Theoretical knowledge
② practical operation standards
③ personal protective equipment
④ Other (specify):
27.What is the most important training needed to improve students' nursing occupational protection skills? (multiple answers)
① Improve one's own awareness of protection
② Improve the level of protection skills
③ Standardize operating procedures
④ Other (specify)
28. You think, in general, students have the theoretical knowledge necessary for the course.
( ) Yes
( ) No
29. You think, in general, students have corresponding protective skills in nursing occupational protection and can engage in basic nursing work.
( ) Yes
( ) No
30. What are the key points of improving the program if necessary?
31. What suggestions do you have for improving students' occupational protection skills?
(32-34)The part-time teacher from the hospital answered:
32. Nursing occupational protection courses can enhance students' awareness of occupational protection and reduce occupational injuries（Answer from part-time hospital teachers）
() Yes
() No

33. Short term training courses on nursing occupational protection can effectively reduce the occupational exposure of nursing staff（Answer from part-time hospital teachers）

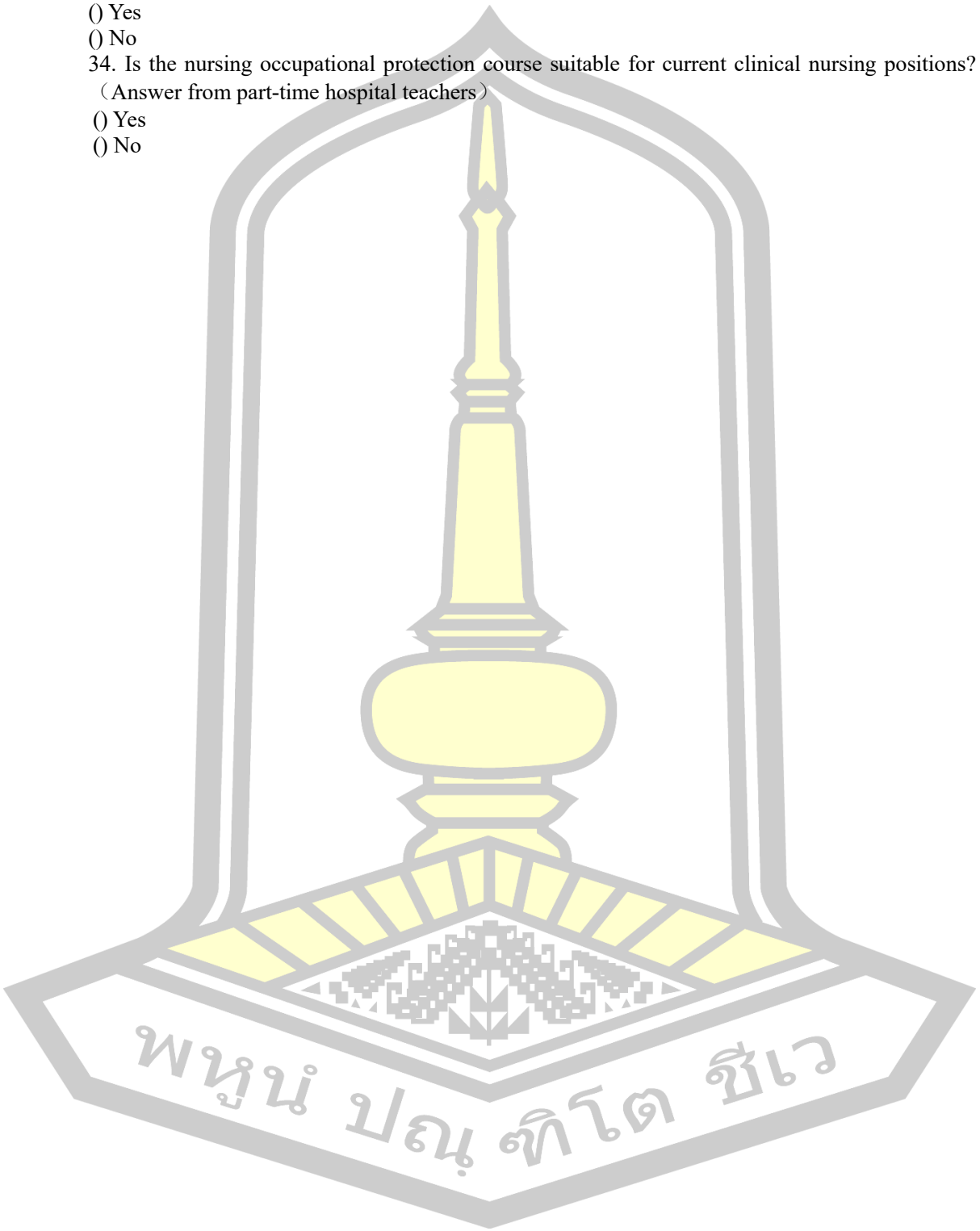
() Yes

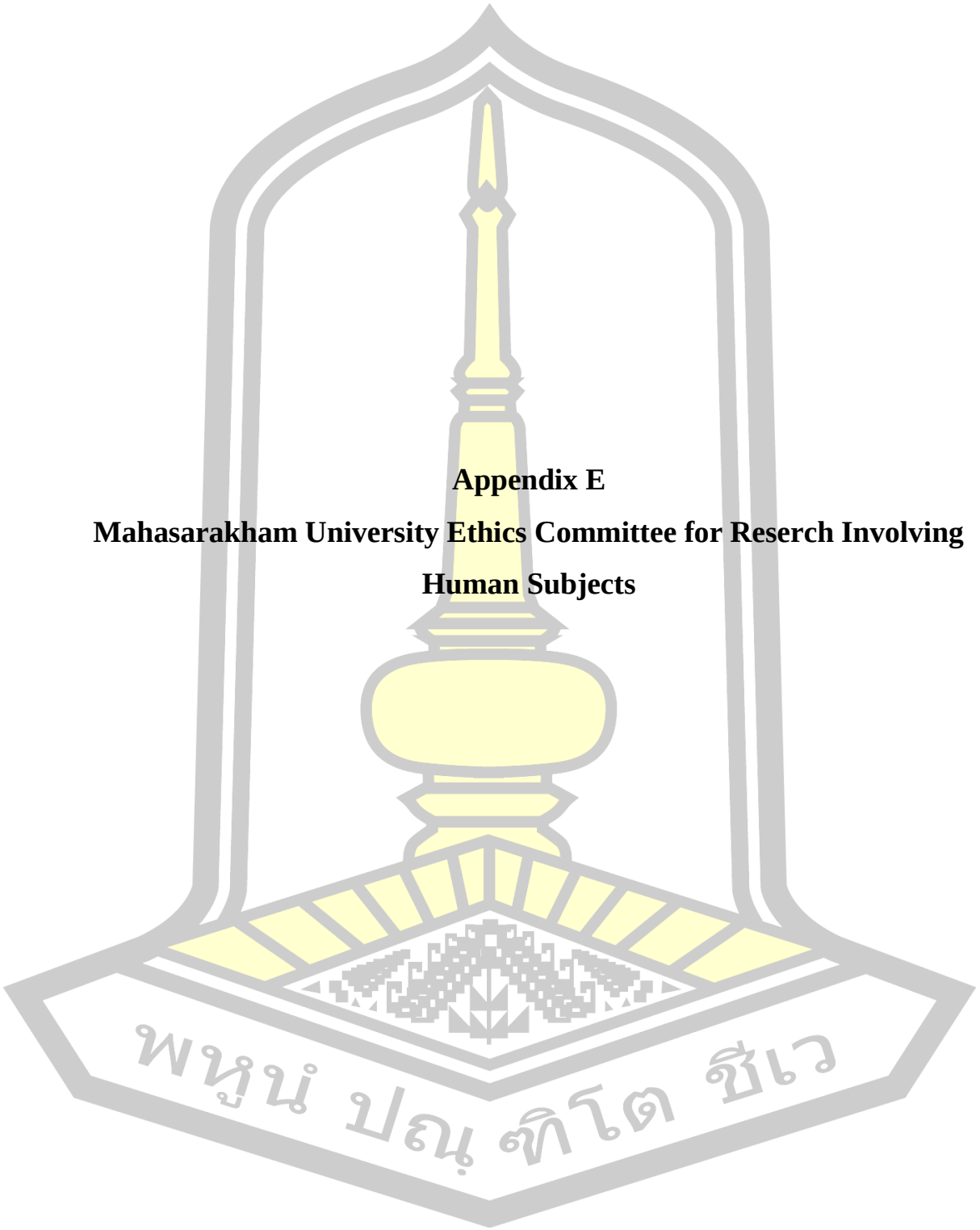
() No

34. Is the nursing occupational protection course suitable for current clinical nursing positions?（Answer from part-time hospital teachers）

() Yes

() No





Appendix E

Mahasarakham University Ethics Committee for Reserch Involving Human Subjects

MAHASARAKHAM UNIVERSITY ETHICS COMMITTEE FOR
RESEARCH INVOLVING HUMAN SUBJECTS

Certificate of Approval

Approval number: 301-177/2024

Title : Evaluation of short term courses of nursing occupational protection.

Principal Investigator : Miss. Yan Zhu
Responsible Department : Faculty of Education
Research site : Sichuan Vocational College of Health and Rehabilitation, China

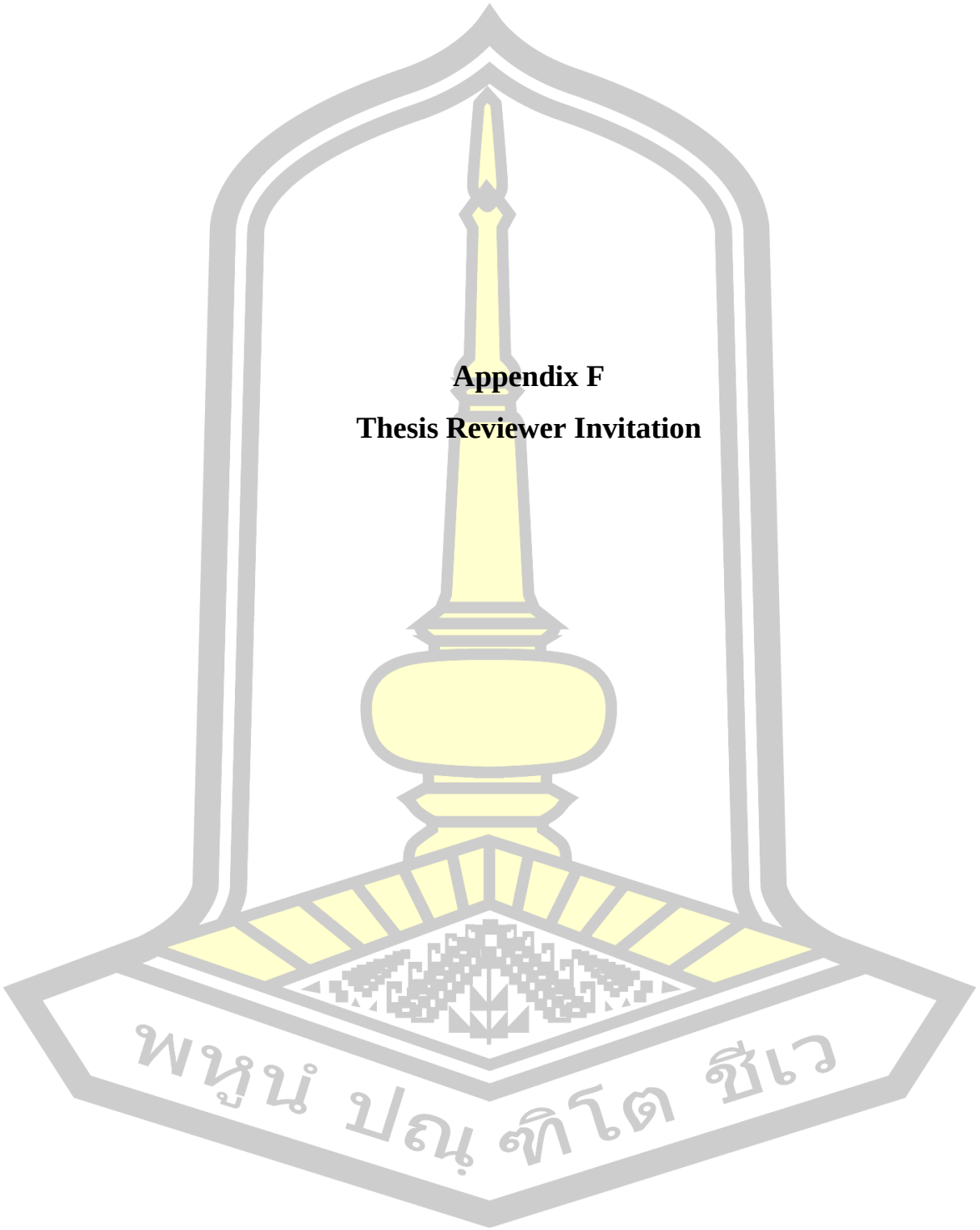
Review Method : Expedited Review

Date of Manufacture : 15 May 2024 **expire :** 14 May 2025

This research application has been reviewed and approved by the Ethics Committee for Research Involving Human Subjects, Mahasarakham University, Thailand. Approval is dependent on local ethical approval having been received. Any subsequent changes to the consent form must be re-submitted to the Committee.

.....

(Associate Professor Vorapoj Promasatayaprot)
Vice Chairman



Appendix F

Thesis Reviewer Invitation

FACULTY OF EDUCATION
MAHASARAKHAM UNIVERSITY

79/2 Muang, Maha Sarakham,
44000, THAILAND
Tel/fax +66 43 713 174
Email: cia.edu@msu.ac.th

Center for International Affairs

MHESRI No. 0605.5 (2) / CL1516 Date: May 7, 2024

To: **Li Cai, Professor,**
Yan Pan, Professor,
Guoyan Zheng, Associate Professor
Yongxian Huang , Deputy Chief Nurse of the First People's Hospital of Zigong City
Wenping Li, Deputy Chief Nurse of the First People's Hospital of Zigong City

Subject:
Thesis Reviewer Invitation

Our student, Ms. Yan Zhu, student ID 64010558019 majoring in the M.Ed. Curriculum and Instruction program is currently undertaking a research project titled "Evaluation of Short-Term Courses in Nursing Occupational Protection" under the guidance of Asst.Prof. Kanyatat Sonsupap

To ensure the successful execution and the highest quality of this research project, we are seeking your valuable expertise and experience. Therefore, I am delighted to extend a formal invitation to you to serve as a reviewer for the research instrument designed for this thesis project.

Your participation in this academic endeavor is highly valued and appreciated. Should you require any further information or have questions regarding this invitation, please do not hesitate to contact us be email.

Yours sincerely,

(Assoc. Prof. Chowwalit Chookhampaeng)
Dean, Faculty of Education,
Mahasarakham University

BIOGRAPHY

NAME	Yan Zhu
DATE OF BIRTH	January 18, 1989
PLACE OF BIRTH	Zigong City, Sichuan Province, China
ADDRESS	2005, Building 5, Hengda Oasis, Yantan District, Zigong City, Sichuan Province, China
POSITION	Student
EDUCATION	2008, High School Diploma, Rong County No. 1 High School, Sichuan Province, China. 2011, Associate Degree in Nursing, Sichuan Traditional Chinese Medicine College, Sichuan Province, China. 2014, Bachelor's Degree in Nursing, China Central Radio and Television University (now Open University of China), Beijing, China. 2024, Master's Degree in Curriculum and Instruction, Mahasarakham University, Thailand.