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FOSTERING PROFESSIONAL COMPETENCE FOR FISHERMAN IN PHU YEN PROVINCE

SUMMARY OF THESIS THESIS

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INTRODUCTION

1. Reason for choosing the topic

The strategy of sustainable development of Vietnam's marine economy to 2030, with a vision to 2045, determines that our country will become a country strong in the sea, rich from the sea. To achieve this goal, one of the important tasks set out is to train high-quality marine human resources with labor knowledge and skills. Thereby creating job opportunities for workers in coastal areas in our country.

Currently, fisheries in Vietnam are characterized by small-scale but heavy and dangerous fisheries, fisherman have to work in harsh conditions of the sea. Meanwhile, the professional qualifications of employees are still low, with little training and retraining. Therefore, the lack of mastery of technology and equipment, leading to low fishing output or many unfortunate incidents at sea for fishermen due to the lack of knowledge or lack of necessary labor skills is a matter of great concern in the current period.

Phu Yen is a province on the South Central Coast, with a large fishing ground. However, most fisherman have low occupational qualifications, mainly based on experience, which do not meet the practical requirements of current fishing activities. In addition, the vocational training for fisherman has been paid attention by Phu Yen province but still remains inadequate. Especially, the foster content is still in the form of focusing on knowledge, not focusing on the formation and development of capacity, the foster method is still the main one, fisherman are still mainly listening to lectures in large numbers, the inspection and evaluation are sometimes not serious, the foster program and plan are not suitable, so the efficiency is not high, leading to the lack and weakness of the practical capacity of the majority of fisherman to catch seafood, in the process of fishing, there are still many accidents injeries due to the limited capacity of fisherman. This is an alarming issue that needs to be taken care of to implement solutions to help fisherman safely at sea, avoiding unfortunate and pitiful accidents.

Recently, there have been studies to improve professernal capacity for fisherman in Phu Yen province. Studies from many different angles have focused on analyzing and clarifying a number of innovative issues related to the process of fishing at sea such as improving fishing technology, modern fishing and product preservation techniques, operation and maintenance of ship machinery... However, up to now, there has been no systematic and in-depth study on the development of professional capacity training programs in general and safety capacity in working on board for fisherman.

Coming from the above base, implementing the study "Fostering competency for fisherman in Phu Yen province" is really necessary and practical. The research result is that a program of fostering safety capacity in working on board for fisherman will contribute significantly to improving professional competency for fisherman in Phu Yen province in particular and the whole country in general.

2. Objectives of the study:

Development a program to fostering safety capacity in working on board for fisherman belong the professional competency system of fisherman in Phu Yen province.

3. Objects and research subjects

3.1. Research object: Fostering professional competency for fisherman

3.2. Research subjects: Program of fostering safety capacity in working on board belong the professional competency system of fisherman in Phu Yen province.

4. Research mission

The fisherman in Phu Yen province is still weak in terms of safety capacity in working on board, unable to fulfill the mission requirements when encountering dangerous situations or accident injuries when fishing at sea. If competency-based curriculum development is the fisherman in Phu Yen province will have sufficient safety capacity in working on board to complete their requirements and tasks when fishing.

4. Research mission

The topic focuses on the following tasks:

Study the overview of fostering professional competency for fisherman; Study the theoretical basis for fostering professional competency for fiserman; Determine the actual situation of fosering safety capacity in working on board for fisherman in Phu Yen province; Develop fostering program safety capacity in working on board for fisherman in Phu Yen province and assess the urgency and feasibility of this fostering program.

6. Limiting the scope of research

6.1. Limitations on content: The safety capacity in working on board is one of the 62 competencies belong the professional competency system of fisherman The thesis only focuses on researching developing a program to fostering safety capacity in working on board for fisherman in Phu Yen province.

6.2. Limitations of survey subjects and areas: The survey was conducted on a selected sample of fisherman in 04 coastal localities of Phu Yen province including Dong Hoa Town, Tuy Hoa City, Tuy An District and Song Cau Town.

6.3. Limitations on survey time: The survey data are from 2018 to 2023.

6.4.Limitations on experimental organization: The thesis selects and organizes pedagogical experiments in 02 modules in the fostering program on safety capacity in working on board for fisherman in Phu Yen province. Pedagogical experiment site: Phu Dong Ward, Tuy Hoa City, Phu Yen Province.

7. Research approachs

7.1. **Group of theoretical research methods**: Using analytical and synthetic methods; method of systematizing theory to serve as a premise for identifying concepts, forming a theoretical framework of fostering competency in general, fostering safety capacity in working on board for fisherman

7.2. **Group of practical research methods**

7.2.1. Survey method by questionnaire

7.23.2. In-depth interview method

7.2.3. Expert method

7.2.4. Method of pedagogical experimentation (quasi -experimentation)

7.2.5. Data processing methods

8. Contribution of the dissertation

8.1. Theoretical

The thesis has contributed to clarifying the theoretical basis of the professional capacity of fisherman; safaty capacity in working on board for fisherman; fostering safety capacity in working on board for fisherman, in which clarifying a number of concepts related to the thesis, determining the structure and criteria for assessing the safety capacity in working on board for fisherman; proposing a process to develop safety capacity in working on board for fisherman in Phu Yen province.

8.2. Practical

Assess the current status of safety capacity in working on board for fisherman belong the professional capacity system of fisherman in Phu Yen province. Assess the current situation of fostering safety practice capacity on fishing vessels for fishing workers in Phu Yen province. Thesis to develop a program fostering of safety capacity in working on board for fisherman in Phu Yen province.

Conducting expert opinions and pedagogical experiments (quasi- experiments) 02 modules " Capacity to handle when there is a fire on the ship" and " Capacity to provide first aid when someone is injured" in the proposed training program to develop these two competencies, contributing to confirming the effectiveness and feasibility of the proposed training program.

9. Thesis Structure

In addition to the introduction, conclusions and recommendations, the list of references, the list of scientific works related to the thesis, the appendix and the thesis consists of 4 chapters, including:

Chapter 1: Overview of research on fostering professional competency of fisherman.

Chapter 2: Theoretical basis of fostering professional competency of fisherman in Phu Yen province

Chapter 3: Actual situation of fostering professional competency of fisherman in Phu Yen province

Chapter 4: Developing a training program fostering safety capacity in working on board for fisherman in Phu Yen province.

CHAPTER 1
OVERVIEW OF RESEARCH ON PROFESSIONAL COMPETENCY FOR FISHERMAN

1.1. Studies fostering professional competency of fisherman

1.1.1. On the importance of fostering professional competency of fisherman

In the current fishing industry, in order to ensure effective work, in addition to a number of factors such as investment in standard boats, good trip preparation, fishing process, product preservation,etc., the professional capacity of fisherman is also very important. This capacity is said to be a more decisive factor than other conditions because only with good knowledge and skills can fishermen choose good ships, appropriate fishing gear, use fishing gear effectively and especially know how to keep their lives safe in the harsh environment of the sea. These include the research of the World Food and Agriculture Organization (FAO), the International Maritime Organization (IMO).

1.1.2. Regarding the structure of fostering professional competency of fisherman

Research on the structure of fostering professional competency of fisherman can include the studies of Nguyen Huu Ly (1991), Tieu Van Kinh (2012), Sang & Hyo (2015), studies all said that structure of fostering professional competency of fisherman includes competencies such as : Capacity to plan the implementation of the cruise and determine the location, capacity to maintain a safe maritime shift, capacity to respond to emergency situations, capacity to maintain seaworthiness of ; maritime information capacity, maritime safety management capacity and maritime awareness,etc.

1.2. Studies on fostering professional competency of fisherman

1.2.1. On the importance of organizing training

Research on fostering professional competency of fisherman can include studies by Ben-Yami & Anderson (1985), Sohar University (2013), Nguyen (2005), FAO (2008), Nguyen (2012), Pham and Phan (2014), Rakesh et al. (2015), Tran (2015), Le and Nguyen (2015), Dao (2016). Studies have emphasized the importance of training fisherman and suggested that training should be studied in the established preparation plan, which should take into account training needs.

1.2.2. Regarding training contents, programs, forms and methods

In terms of content, programs, forms and methods of training are implemented through the research of the authors such as Su-Chang Chen (2004), Nguyen (2005), SFMP (2014), Sohar University (2013), Voluntary Committee of the National Assembly (2013). The study said that the training of fishermen should be carried out comprehensively, there should be appropriate training programs for fishermen. It is necessary to structure training programs and legal constraints for fishermen to take basic courses to ensure that they work safely and effectively. These programs need to take into account age, education level, technical aspects such as knowledge of fishing gear, fishing grounds, etc.

1.3. Studies on fostering fostering safety capacity in working on board for fisherman

1.3.1. On the importance of organizing training

Evaluate the importance of preventing natural disasters for fisherman at sea. In studies, it is said that fishing is a dangerous profession, in addition to the influence of the natural environment and the working environment on ships, the occupational skills of fishermen in the fishing process is one of the causes of occupational injuries and accidents. The authors also proposed a solution to focus on occupational training for workers to catch seafood to ensure safety at sea. Typically shown through the research of Vietnam Shipping and Chartering Company (1988; Institute of Fisheries Resources (1996), Tomaszunase & Associates (1997), Laursen & Associates (2008), Phan and Vu (2008), Phung et al (2014), Laura & Associates (2016), Le (2011).

1.3.2. Regarding training contents, programs, forms and methods

The content, programs, forms, and training methods are reviewed through the studies of Srinath and Rajeev *(*1995), Le (2011), Grimsmo et al. (2010), STCW –F (1995), SEAFDEC (2013), Nguyen (2018), Todd Miner et al. (2019). The authors propose to implement a first aid training program to prevent accidents and injuries to seafarers. Fisherman are equipped with knowledge, understanding and skills to recognize possible emergency situations such as ship collision, ship fire, shipwreck, common types of life-saving equipment on board, life-saving principles and techniques, knowledge of explosion-proof elements, fire protection organization on board, basic first aid measures due to accidents, knowledge of emergency response, teamwork skills

1.4. General assessment of the research overview and some issues raised for the thesis

1.4.1. General assessment of the research overview

Most studies confirm the necessity of fostering professional competency of fisherman. Most domestic and foreign studies say that fishing is a heavy and dangerous occupation, with a high injury rate compared to working on land, so it is necessary to provide training. However, in studies on the process of organizing training, especially the development of training programs according to which processes are appropriate to contribute to improving professional capacity for fisherman, there is still no solution.

1.4.2. Some issues posed for the thesis

Firstly, inheriting the concepts of domestic and foreign studies to identify concepts related to the topic to supplement the theoretical basis for fostering professional competency of fisherman.

Secondly, there is no specific theoretical framework to serve as a basis for building a training program safety capacity in working on board for fisherman

Thirdly, the organization of safety capacity in working on board in Phu Yen province is still limited, so it is necessary to have a training program to meet the learning needs and suit the characteristics in Phu Yen province.

CONCLUSION OF CHAPTER 1

From the general overview and analysis of scientific works on fostering professional capacity for fishermen, general comments have been made, identifying vacant issues, which can be inherited, applied and found out the content to be further studied in the next chapters of the thesis. From the results of the review study, it was confirmed:

Research by domestic and foreign scientists has synthesized and generalized the professional competencies of fisherman. The works of domestic and foreign authors have also studied and clarified the basic characteristics of training activities for fisherman such as contents, methods, forms of training, practices of training activities and proposed measures to improve training activities. However, there are still limited numbers, there are not many large-scale and in-depth studies on this issue.

CHAPTER 1
THEORETICAL BASIS FOR FOSTERING PROFESSIONAL COMPETENCY OF FISHERMAN

2.1. Some concepts related to the topic

2.1.1. Fisherman

Within the research scope of this thesis, fishing activities are professional activities and fishing workers are seafarers working on fishing vessels, who are responsible for exploiting marine fishery resources through specialized tools.

2.1.2. Professional competency of fisherman

2.1.2.1. Competencies

Within the research scope of this topic, the concept of competence is the ability to effectively perform certain professional activities and tasks through a combination of appropriate knowledge, skills, attitudes and including general competencies and specialized competencies.

2.1.2.2. Professional competency

Within the scope of the thesis and from the approach to the concept of competence as mentioned above, the concept of professional competence is understood as the ability to effectively

perform tasks and jobs according to the requirements and standards of the profession, through the combination of professional knowledge, skills and attitudes.

2.1.2.3. *Professional competency of fisherman*

From the concept of competency and professional competency that has been approached above, the professional competency of fisherman is understood as the ability to effectively perform the tasks, tasks according to the requirements and standards of the fishing profession, through the combination of knowledge, skills and professional attitudes.

2.1.3. Fostering professional competency for fisherman

2.1.3.1. Fostering

Within the scope of this thesis, the refresher concept is understood as the process of training and supplementing knowledge, skills and attitudes for employees so that employees are able to effectively perform tasks and jobs according to the requirements and standards of the profession.

2.1.3.2. Fostering professional competency for fisherman

In this thesis, fostering professional competency for fisherman is understood as the process of training and supplementing professional knowledge, skills and attitudes for fisherman so that fisherman are able to effectively perform tasks and jobs according to the requirements and standards of the fishing profession**.**

2.1.4. Fostering safety capacity in working on board for fisherman

2.1.4.1. Safety capacity in working on board for fisherman

From the approach of the above concepts, the safety capacity in working on board for fisherman is understood as the ability to prevent and control the impact of dangerous factors to ensure that there is no injury or death to people during the working process.

2.1.4.2. Fostering safety capacity in working on board for fisherman

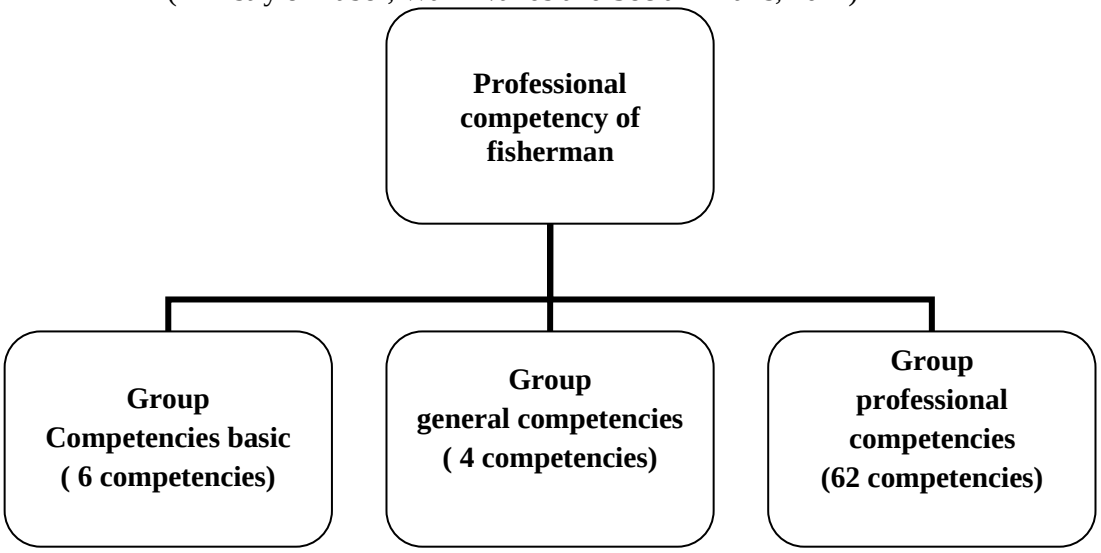
Based on the above-mentioned concepts, the thesis defines the concept of fostering safety capacity in working on board for fisherman as training activities, supplementing necessary knowledge, skills and attitudes to help fisherman with the ability to prevent and control the impact of dangerous factors to ensure that there is no injury or death to people during labor.

2.2. Characteristics of professional activities of fisherman

Characteristics of professional activities of fisherman are manifested: Diverse tasks and fixed procedures; Working time is often long and faces many dangers. Moreover, marine fisheries also perform the sacred and noble task of asserting sovereignty, contributing to the protection of the country's maritime borders.

2.3. Professional competence framework of fisherman

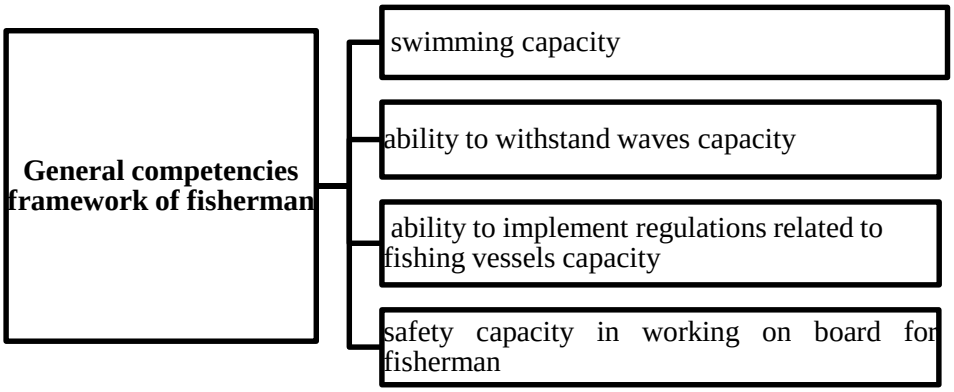
Figure 2.1. Professional competency of fisherman framework
(Ministry of Labor, War Invalids and Social Affairs, 2021)



From professional competencies the framework of fisherman, it shows that safety capacity in working on board for fisherman is one of the four competencies in the general competency group

of fisherman including swimming capacity, ability to withstand waves capacity, ability to implement regulations related to fishing vessels capacity and safety capacity in working on board for fisherman

Figure 2.2. General competencies framework of fisherman
(Ministry of Labor, War Invalids and Social Affairs, 2021)



2.4. The theory of the safety capacity in working on board for fisherman

2.4.1. Work and safety practice tasks on fishing vessels of fisherman

Starting from the position and role of fisherman as stipulated in the Law on Fisheries 2017 mentioned above, in Article 5, Article 6, Article 7, Article 8 and Article 9 of Circular No. 22/2018 dated November 15, 2018, the Ministry of Agriculture and Rural Development stipulates that crew members of fishing vessels and fishery service vessels have prescribed the responsibilities and duties of each fishing vessel crew member such as captain, first officer, chief engineer, mechanic, and sailor. Thus, in addition to professional tasks, the task of preventing dangerous factors that may cause accidents when operating at sea is also mentioned in each task of the ship's titles.

2.4.2. Structure of safety capacity in working on board for fisherman

Table 2.1. Safety capacity in working on board structure of fisherman

Safety capacity in working on board structure of fisherman	
1	Capacity to handle when people fall into the sea
2	Capacity to handle when the vessel is punctured
3	Capacity to handle fire on board
4	Initial first aid capacity when someone is injured
5	Abandonment survival at sea
6	Capability to detect and track storms at sea
7	Communication loss prevention capability

2.4.3. Criteria for assessing safety capacity in working on board structure of fisherman

Table 2.2. Criteria for evaluating "Initial first aid capacity when people are injured" and "Capacity to handle fire on board" of fisherman

No.	**Capacity core**	**Capacity project**	**Criteria activities**	**Presentation**	**Method of proving competence**
1	Initial first aid capacity when someone is injured	1.1. Identification of lesion sites	- Observe and identify the damaged areas on the victim's body. -Analysis and evaluation of the	Careful observation of the lesions to be addressed. Judging the	Assessment during the course

			victim's vulnerability level. - Be able to determine the method of organizing first aid when the exact location of the lesion has been determined.	severity of the injury. Take quick and accurate first aid action.	
		1.2. Use the tools in the first aid kit	- Analyze and list the correct type of equipment in the first aid kit. - Be able to present the use of each type of tool. - Use tools properly, properly, effectively and safely.	Be specific about the equipment included in the first aid kit. List all necessary tools. Perform first aid actions with first aid equipment in accordance with the procedures used	Assessment during the course
		1.3. Handling when the victim suffocates	- Analyze and identify the causes of suffocation. - Be able to explain the process of handling victims when they suffocate. - Perform CPR activities in accordance with each health condition of the victim. - Coordinate with people around them in first aid for victims and adjust the method and form of first aid accordingly. - Make the victim able to breathe again.	Be able to judge the cause of suffocation. Disposal procedures Perform the correct first aid action. Give an urgent notice to seek help. Take action to reduce the risk of danger.	Assessment during the course

		1.4. Basic Bleeding Control	- Be able to analyze the causes of bleeding and how to handle it during the bleeding process. - Be able to use hemostatic devices to stop bleeding for the victim.	Be able to judge the cause of bleeding. List all necessary tools and take quick and effective first aid action.	Assessment during the course.
		1.5. Bandage for fractures, sprains	- Be able to analyze the locations of lesions that need dressing, determine the causes of fractures and sprains. - Be able to use tools to bandage fractures and sprains.	Judging the location of the lesion, judging the severity of the wound. List all necessary tools and take quick and effective first aid action.	Assessment during the course.
2	Capacity to handle fire on board	2.1. Recognize the location of firefighting equipment and emergency exits.	- Be able to identify fire-proof positions on the ship.	- List all fire protection equipment on board.	Assessment during the course.
		2.2. Distinguish types of sources of ignition, risk of ignition and spread of fire.	Identify sources of fire on board .	Specify sources of ignition on board.	Assessment during the course.
		2.3. Classification of applicable extinguishers.	- Be able to identify fire extinguishing substances on board.	- List and present specifically the fire extinguishing substances on the ship.	Assessment during the course.
		2.4. Using fire fighting equipment and tools; fire fighting methods, sequences, methods of using breathing equipment in fire fighting and rescue.	- Choose the right fire protection tools.	- List and explain the use of fire protection tools and take action against fire quickly and effectively.	Assessment during the course.

From the criteria defined as Table 2.2, a scale equal to the score to evaluate each competency through fostering is developed.

2.5. Theoretical framework on fostering safety capacity in working on board for fisherman

2.5.1. The importance of fostering safety capacity in working on board for fisherman

Resolution of the 8th Plenum of the 12th Party Central Committee on the Strategy for sustainable development of Vietnam's marine economy to 2030, with a vision to 2045 has also determined to enhance education, raising awareness, knowledge and understanding of the sea and ocean, survival skills, adaptation to climate change, sea level rise, disaster prevention and avoidance, development of high-quality marine human resources in accordance with market demand.

Throughout that guiding spirit, in Resolution No. 19-NQ/TW, dated June 16, 2022, the Fifth Conference of the 13th Party Central Committee on Agriculture, Farmers and Rural Affairs to 2030, with a vision to 2045, also determined to implement synchronous solutions to improve the efficiency of offshore seafood exploitation in association with the protection of national sea and island sovereignty.

2.5.2. Learning characteristics of fisherman

Currently, most fisherman are adults, more or less have knowledge and experience in work. Therefore, the learning characteristics of fisherman have common characteristics of learning characteristics of adults and some unique characteristics of fishing workers that affect learning expressed through the characteristics of education level; on conditions for participation in fostering; on motivation and need for fostering:

2.5.3. Elements of the process of fostering safety capacity in working on board for fisherman

2.5.3.1. Training objectives

The common goal of fostering safety capacity in working on board for fisherman is determined to provide and expand knowledge and experience for fisherman in situations that are prone to injury, help workers worth catching seafood accurately identify dangerous situations as well as how to respond safely and reasonably in dangerous situations, ensuring safety for themselves and their members on board.

2.5.3.2. Additional contents

The content of fostering safety capacity in working on board for fisherman includes: Handling dangerous situations when people fall into the sea; Handling dangerous situations when a ship is punctured; Handling dangerous situations when there is a fire on board; First aid when people are injured; Surviving at sea when leaving the ship; Detecting and monitoring storms at sea; Preventing communication loss.

2.5.3.3. Fostering method

Refresher methods that can be used by teachers in the process of fostering safety capacity in working on board for fisherman include: *Presentation method*; *Practical method*; *Group discussion method: Scenario creation method.*

2.5.3.4. Form of training

The form of ensuring the organization of activities of teachers and students is determined by the actual conditions of the teaching process. Some forms of training can be applied as follows: In-person training; In-person training combined with online training; Training through fishery trade union activities, through conferences and seminars; Self-training.

2.5.3.5. Checking and evaluating training results

Because it is a short-term program with a focus on practice, inspection and evaluation methods that can be used in fostering safety capacity in working on board for fisherman must focus mainly on the method of inspection and practice.

2.5.4. Factors affecting the fostering of safety capacity in working on board for fisherman

2.5.4.1. Awareness and fostering needs of fisherman

2.5.4.2. Teacher qualifications and management policies related to foster

2.5.4.3. Conditions of facilities and means for training.

2.6. Theoretical framework for the development of a training program on safety capacity in working on board for fisherman

2.6.1. Approaches in developing a training program on safety capacity in working on board for fisherman

According to education researchers, there are basic approaches in building educational programs such as: content approach, target approach and development approach. With each approach, there are its characteristics, advantages and limitations. Meanwhile, the competency approach is associated with a learner-centered perspective, focusing on the teaching process, emphasizing what learners can do after learning. With the outstanding advantages as analyzed above, based on the learning characteristics of fisherman, the competency approach in developing a program to foster safety capacity in working on board for fisherman in Phu Yen province is selected by its superiority.

2.6.2. The program fosters safety capacity in working on board for fisherman to the capacity approach.

2.6.2.1. Characteristics of the training program

- The training program is built based on the results of vocational analysis. The capacity that fisherman will acquire during the foster process must be determined from rigorous, accurate and complete vocational analysis using the DACUM vocational analysis method in combination with the expert method.

2.6.2.2. Content of the training program

According to the capacity approach combined with the learning characteristics of fisherman, the content of the training program will be compactly structured because the training of safety capacity in working on board for fisherman is mainly to update and improve new knowledge so that fisherman can improve their professional capacity.

2.6.2.3. Process of developing a capacity-based training program

The development of vocational training programs is carried out through the following stages:

Designed Stage

The task of this stage is to design the training content according to each topic (learning unit) and module, build a database of learning units according to the system of categories and codes. This phase includes the following steps:

Step 1: Analyze the training needs

Step 2: Career analysis

Step 3: Analyze the work

Step 4: Identify refresher modules

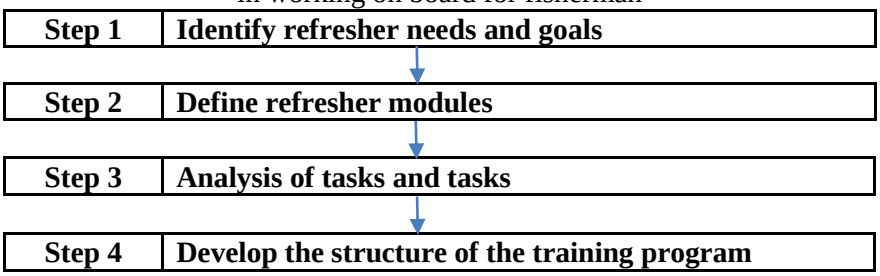
Step 5: Identify learning units

Step 6: Develop learning materials for the module

Stage of application

From the theories of program development under this competency approach, it is possible to describe the steps to develop a fishing vessel safety training program for fishing workers as shown in Figure 2.3.

Figure 2.3. The process of developing a training program safety capacity in working on board for fisherman



CONCLUSION OF CHAPTER 2

In summary, from the inheritance of the research results of previous scientists, the thesis has systematized the theoretical basis of professional capacity training for fisherman. From the research results, the following conclusions can be drawn:

Firstly, the development of a modular safety capacity in working on board for fisherman training program will meet the needs and requirements of career training quality in the current context because of its superiority, flexibility and suitability for fisherman

Secondly, fostering safety capacity in working on board for fisherman pays special attention to the learning characteristics of adults and it is an educational process, so it is necessary to show the elements of the fostering process including: objectives, content, methods, forms of fostering, inspection and evaluation of fostering results.

Thirdly, the process of fostering safety capacity in working on board for fisherman is influenced by many factors.

Fourthly, choosing a capacity approach in the development of a safety capacity in working on board for fisherman.

CHAPTER 3
ACTUAL SITUATION OF FOSTERING FOSTERING SAFETY CAPACITY IN WORKING ON BOARD FOR FISHERMAN IN PHU YEN PROVINCE

3.1. Overview of fishing in Phu Yen province

3.1.1. Structure of fisheries in Phu Yen province

3.1.2. Situation of the vocational training program for fisherman in Phu Yen province

3.2. Organization of investigations and surveys

3.2.1. Survey purpose

Assess the current situation of fostering safety capacity in working on board for fisherman in Phu Yen province.

3.2.2. Survey content: Surveying the current situation of capacity and fostering safety capacity in working on board for fisherman in Phu Yen province.

3.2.3. Survey table: 04 coastal localities of Phu Yen province including

3.2.4. Survey sample size: 400 fisherman have participated in vocational training courses for local fishing workers.

3.2.5. Survey methods, tools and time

3.2.5.1. Survey methods and tools:

The researcher uses two survey methods: a questionnaire survey method and an in-depth interview method to conduct a practical survey.

3.2.5.2. Duration of the survey: From March 2022 to May 2023.

3.2.5.3. Data processing and evaluation: The thesis uses SPSS software to process the survey results. In addition, qualitative information is synthesized and interpreted to confirm information about the current state of the research problem.

3.3. Results of the survey

3.3.1. Current status of safety capacity in working on board for fisherman in Phu Yen province

3.3.1.1. Capacity to handle when people fall into the sea

For *"Capacity to handle when people fall into the sea"*is rated the highest, at a good level (score of 2.91). This shows that the majority of fisherman before each sea trip are well prepared for their journey at sea, preparing lifesaving equipment to cope with possible dangerous situations.

3.3.1.2. Capacity to handle when the vessel is punctured

The results of the survey " Capacity to handle when the vessel is punctured" show that this capacity is rated at an average level with an overall average score of **2.06**. This shows that each worker still lacks knowledge and skills related to handling the situation when the vessel is punctured, the inspection and preparation of tools and equipment to cope with the situation when the vessel is punctured is still not high.

3.3.1.3. Capacity to handle fire on board

For "Handling capacity when there is a fire on board" is rated at a weak level with an overall average score of **1.73**, which is low. This proves that fishing workers do not care and are not prepared for this dangerous situation, from the fire incidents that have occurred, the captain and crew have not learned from, paid little attention to and invested in fire protection equipment on the ship as well as participating in the operation of fire protection training courses when there is an incident.

3.3.1.4. Initial first aid capacity when someone is injured

For*"initial first aid capacity when someone is injured"* was assessed at a weak level (score of 1.68)**.** Thus, the assessment of fisherman is less fostering on this content, moreover, workers are also mainly based on their first aid experience when fishing, so they do not care about the issue of being injured at sea. It is necessary to have initial knowledge and handling skills to protect their lives.

3.3.1.5. Ability to survive at sea when leaving the ship

*"Survival at sea when leaving the ship"*was rated as the average with score of **2.43.** The main reason is that in this activity, fisherman mainly rely on experience and equipment when encountering dangerous situations, which are rarely equipped or equipped by workers, are also coping, have not become habits and requirements in their profession.

3.3.1.6. Capacity to detect and monitor storms at sea

For *"capacity to detect and monitor storms at sea"*, it is assessed as a good capacity (score of 2.70)**.** This affirms that most fishermen are able to recognize storm-related signs to be able to proactively prevent, those who know these signs are not only the captain but most crew members can detect and distinguish dangerous situations when there is a storm at sea.

3.3.1.7. Capacity to prevent communication loss

For *"Communication loss prevention capacity"* is rated at the average level (score of 2.36)**,** this proves that the majority of seafood workers in Phu Yen province do not have the skills to use communication equipment on board.

****) General assessment of safety capacity in working on board for fisherman in Phu Yen province***

The assessment of safety capacity in working on board for fisherman is carried out according to each competency and in each competency, the component competencies are assessed. Based on the general average score of the component competencies of safety capacity in working on board for fisherman, there are 02 competencies rated by fisherman at a good level, of which*"Capacity to handle when people fall into the sea"* is rated the highest with an overall average score of **2.91**,*"Capacity to detect and monitor storms at sea"* ranked second with an average score of **2.70.**

In contrast, ratings 6 and 7 are two occupational competencies:*"Capacity to handle when there is a fire on board" and "Initial first aid capacity when someone is injured"* are rated at a weak level with an overall average score of **1.73** and **1.68**, respectively. These are the two most underestimated competencies in fisherman, which need special attention and should be selected for training.

3.3.2. Actual situation of fostering safety capacity in working on board for fisherman in Phu Yen province

3.3.2.1. Current status of the level of training needed

From the survey results, it has been confirmed that the fostering of safety capacity in working on board for fisherman in Phu Yen province is a necessary and urgent task at present, in order to meet the requirements of increasingly difficult and complicated fishing work at sea.

3.3.2.2. The current situation of the level of participation in training courses related to safety capacity in working on board for fisherman in Phu Yen province.

From the results of the survey, the level of participation in training on safety capacity in working on board for fisherman in Phu Yen province was assessed as not high, not regular, and also coping. This needs to change, it is necessary to further improve the level of regular training on safety capacity in working on board for fisherman to meet the requirements of the work, especially the complicated situation when fishing in the East Sea today.

3.3.2.3. Current status of training objectives

From the results of the survey and in-depth interviews, most of the fisherman rated the need to achieve these training goals, the assessment rate was over 80%. Thus, it can be seen that workers have identified relatively fully the objectives that need to be in fostering safety capacity in working on board for fisherman

3.3.2.4. Current status of training content

Based on the assessment results, the level of implementation of safety capacity in working on board for fisherman in Phu Yen province is uneven. Handling activities when people fall into the sea are carried out regularly with an average score of 2.68, while the remaining activities are only occasionally carried out by fisherman. In particular, for 02 activities "handling when there is a fire on the ship" and the content "Initial first aid when someone is injured" is assessed at an infrequent level.

3.3.2.5. Current situation of training methods

From the results of the survey and interviews, it can be assessed that the most effective level of implementation is the presentation teaching method implemented in the training courses for fisherman in Phu Yen province due to the concentrated form of training and the large number of participants, so teachers often use this method. Meanwhile, in capacity-based training, teaching methods in the direction of learner activeness are not used by teachers.

3.3.2.6. Current situation of training form

From the results of surveys and interviews on the form of training for fisherman in Phu Yen province used in the time, the main form of training used is concentrated training, through training courses accounting for the highest proportion (50.50%), the form of training through fishery trade union activities, through conferences and seminars in the second position (30.15%), the form of direct training combined with direct recruitment and self-training accounts for a very low proportion.

3.3.2.7. Situation of the method of inspection and evaluation of training results

Through the results of surveys and in-depth interviews, the level of application of testing and evaluation methods of teachers has confirmed: the method of testing and evaluation by multiple-choice after the end of the refresher module is very often used by teachers (average score = 2.50), the methods that are regularly applied are the method of writing essays (average score = 2.21), while the method of testing and evaluation sometimes used by teachers is the method of answering questions (average score =1.83) and the method of practice (average score = 2.11).

3.3.2.8. Current situation of factors affecting fostering

From the survey results, the average score of the factor "Awareness and training needs of fishing workers" is **3.05**, ranked 1/3; *"*Teacher qualifications and management policies related to training " has an average score of **2.36**, ranked last;*"Conditions of facilities and means for training"*has an average score of **2.77**, ranked 2/3.

3.3.2.9. Duration of the training program

Through the survey of workers' opinions on fishing, the majority said that the duration of the training program is from 7 to 10 days, accounting for the highest rate (72.86%), the rate of choosing the duration of less than 7 days accounts for the rate (22.61%) and the rate of choosing the refresher time over 10 days is very low (4.52%).

From the survey results, fisherman determine that this is an appropriate time to participate because after each fishing trip, workers are usually given a break of about 7 days to wait for the next fishing trip. If the refresher period is prolonged, it will affect the time spent on the next trip.

3.4. General assessment of the current situation and causes of fostering safety capacity in working on board for fisherman in Phu Yen province.

3.4.1. Strengths:

The majority of fisherman in Phu Yen province recognize the need to foster safety capacity in working on board for fisherman, consciously learning to improve their capacity to meet job requirements. Participants in the course are all experienced in the profession, determining the training objectives to achieve the required competencies.

3.4.2. Limitations

Besides the outstanding advantages, the still has the following limitations:

- Safety capacity in working on board for fisherman in Phu Yen province is generally only average, not meeting the requirements of current work tasks.

- Although teachers have innovated refresher methods, they have created favorable factors for the development of professional competency of fisherman.

3.4.3. Causes of the limitations

The above limitations are created from the following causes:

- Training facilities in Phu Yen have not yet developed a training program to improve the safety capacity in working on board for fisherman

- The training method for adults in the organization of occupational training for fisherman has not been applied

CONCLUSION OF CHAPTER 3

Phu Yen province has many solutions in professional training for fisherman. However, in fact, the training activities have not brought high efficiency, specifically, the safety capacity in working on board for fisherman is still weak, not meeting the work requirements.

In particular, the competency groups that constitute the safety capacity in working on board for fisherman have not achieved uniformity. Therefore, it is necessary to pay attention to timely training of weak capacities such as "handling capacity when there is a fire on board the ship" and "initial first aid capacity when someone is injured" to meet the job requirements.

CHAPTER 4
DEVELOP A TRAINING PROGRAM SAFETY CAPACITY IN WORKING ON BOARD FOR FISHERMAN IN PHU YEN PROVINCE

4.1. Requirements in developing a training program on safety capacity in working on board for fisherman in Phu Yen province

Firstly, the training program must ensure the needs of learners. When developing the training program, ensuring that the training is to improve safety capacity in working on board for fisherman, improve ethics and industrial manners.

Secondly, the development of the training program must come from the requirements of practice, must meet the specific practical conditions on the prevention of natural resources at sea as well as the requirements of human resource development of Phu Yen province.

Thirdly, the training program when building the sea is suitable to the economic, cultural conditions and organizational capacity of each locality when organizing.

4.2. Develop a program to foster safety capacity in working on board for fisherman in Phu Yen province.

From the theoretical basis presented in Chapter 2 and the results of the survey in Chapter 3, the development of a training program on safety capacity in working on board for fisherman in Phu Yen province is carried out in the following specific steps:

Step 1: Identifying training needs

The most common method of identifying training needs is still the collection and analysis of information about learners through surveys and surveys combined with expert methods.

Step 2. Identify foster modules

Table 4.1. Content for fostering safety capacity in working on board for fisherman in Phu Yen province

No.	Phân hệ
Module 1	Capacity to handle when people fall into the sea
Module 2	Capacity to handle when the vessel is punctured
Module 3	Capacity to handle fire on board
Module 4	Initial first aid capacity when someone is injured
Module 5	Abandonment Survival at Sea
Module 6	Capability to detect and track storms at sea
Module 7	Communication loss prevention capability

Step 3: Analyze tasks and tasks

Table 2. Analysis of safety capacity in working on board for fisherman

Task	Tasks		
1. Capacity to save people when falling into the sea	1.1 Throw a personal life buoy to the victim.	1.2. Preparing life-saving means to rescue people in distress	1.3. Move the vessel away from the victim so that the victim is not sucked into the propeller
	1.4. Inform the functional forces to promptly rescue.		
2. Capacity to handle when the vessel is punctured	2.1. Determine the location and size of the perforation, the flow of water through the perforation.	2.2. Seal the watertight tunnel doors between the perforated tunnels and the adjacent tunnels.	2.3. Use waterproofing tools on the ship to temporarily seal the hole.
	2.4. Use the pump to draw water out.		
3. Capacity to handle fire on board	3.1. Be able to identify the location of fire protection equipment and emergency exits.	3.2. Distinguish types of sources of ignition, risk of ignition and spread of fire.	3.3. Classification of applicable extinguishers.
	3.4. Use of fire fighting equipment and tools; fire fighting methods, sequences, methods of using breathing equipment in fire fighting and rescue.		
4. Capacity to provide first aid when someone is injured at sea	4.1. Use of medical equipment in first aid.	4.2. Locate the lesion.	4.3. Application of resuscitation techniques.
	4.4. Control bleeding	4.5. Adopt appropriate measures to prevent stupor,	4.6. Bandage and use of emergency first aid kit tools.
5. Ability to survive at sea when leaving the ship	5.1. Fighting thirst at sea	5.2. Fighting hunger at sea	5.3. Prepare life buoys or objects that can float on the water, the ability to keep the body light to keep strength while waiting for help.
6. Ability to detect and monitor storms at sea	6.1. Detection and monitoring of storms at sea through changes in the state of the sea surface.	6.2. Detection and monitoring of storms at sea through changes in the state of the sky.	6.3. Detect and monitor storms at sea through unusual manifestations in the living activities of some surrounding living

			organisms.
7. Capacity to prevent communication loss	7.1. Using on-board communication equipment for emergency alarms.	7.2. Contact the emergency place to prevent interruption of communication, ensure the safety of people and vehicles operating at sea.	

From the list of tasks, the work on safety capacity in working on board for fisherman in Phu Yen province has been identified as the basis for determining the objectives and contents of fostering safety safety capacity in working on board for fisherman in Phu Yen province.

Step 4. Develop the structure of the training program

Table 3. Training framework for safety capacity in working on board for fisherman in Phu Yen province

No.	Code	Phân hệ	Time training (hours)
Module 1	MD1	Capacity to handle when people fall into the sea	10
Module 2	MD2	Capacity to handle when the vessel is punctured	8
Module 3	MD3	Capacity to handle fire on board	11
Module 4	MD4	Initial first aid capacity when someone is injured	14
Module 5	MD5	Abandonment Survival at Sea	10
Module 6	MD6	Capability to detect and track storms at sea	9
Module 7	MD7	Communication Loss Prevention Capability	12
Total			**74**

The general description of the modules is as follows:

Module 1: Capacity to handle when people fall into the sea

This module equips workers to catch seafood with knowledge and skills on handling situations when people fall into the sea. Learners are equipped with the knowledge, skills and methods of throwing personal life buoys for the victims, preparing life-saving means to rescue the victims, skills to move the ship away from the victims so that the victims are not sucked into the propeller; skills to inform the functional forces to promptly rescue.

Module 2: Capacity to handle when the ship is punctured

This module equips learners with knowledge and skills to handle emergency situations in case the train is punctured, promptly stop the train and conduct work to limit water flow into the train, ensure the safety of people and property. Learners are equipped with knowledge and skills to determine the location, size of the hole, water flow through the hole; skills to close the watertight tunnel doors between the tunnel and the adjacent tunnel, skills to use waterproofing tools on board to temporarily seal the hole; skills to use the pump to suck water out.

Module 3: Capacity to handle when there is a fire on the train

This module equips learners with knowledge and skills to minimize fire risks and ensure emergency preparedness related to on-board fires. Learners are provided with knowledge and skills to identify the location of firefighting equipment and emergency exits, skills to distinguish types of ignition sources, fire hazards and the spread of fire; skills to classify applicable fire extinguishers; skills to use fire extinguishing equipment and equipment; methods, fire extinguishing sequences, methods of using breathing apparatus in fire fighting and rescue.

Module 4: Initial first aid capacity when someone is injured

This module equips learners with initial first aid knowledge and skills when there are workers suffering from injuries, learners are trained in the skills of using medical equipment in first aid; identifying the location of injuries; Applying resuscitation techniques; bleeding control skills, skills of applying appropriate measures to prevent shock and bandages and using tools in emergency first aid bags.

Module 5: Ability to survive at sea when leaving a ship

This module provides learners with knowledge and skills to survive at sea when they are forced to leave the ship in order to minimize injuries when leaving the ship. Learners are equipped with knowledge about fighting thirst at sea and hunger at sea, skills in using life buoys or objects that can float on the water, methods to keep the body gentle to keep strength while waiting for help.

Module 6: Ability to detect and monitor storms at sea

This module equips learners with knowledge and skills to evaluate and judge the arising of storms through their knowledge and experience. Learners are equipped with the knowledge of detecting and tracking storms at sea through changing the state of the sky; detecting and tracking storms at sea through changing the state of the sea; detecting and tracking storms at sea through unusual manifestations in the living activities of some surrounding organisms.

Module 7: Communication loss prevention capacity

This module equips learners with knowledge and skills to handle situations when communication is lost at sea. Learners are provided with knowledge related to the use of communication equipment on board for emergency alarms; communication methods to emergency places to prevent communication disruptions, ensure safety for people and vehicles operating at sea.

Detailed program on fostering safety capacity in working on board for fisherman in Phu Yen province

- Program name: Training program on safety capacity in working on board for fisherman in Phu Yen province

Program Description:

Training program on safety capacity in working on board for fisherman in Phu Yen province is compiled according to a modular structure for the purpose of improving the safety capacity in working on board for fisherman in Phu Yen province, forming the necessary occupational competencies, associated with the assigned responsibilities, tasks and work requirements of fisherman.

Training program on safety capacity in working on board for fisherman in Phu Yen province consists of 7 modules that are flexibly arranged with time for each module to be suitable so that fisherman can choose appropriate according to job requirements (Fisherman can participate in the training of all modules or a few modules depending on individual needs or depending on the training needs of the management agency and not necessarily in the order of modules).

II. FOSTERING OBJECTIVES: After completing this program, learners achieve the following knowledge, skills and attitudes:

Knowledge:

+ Be able to present the content of safety work when people fall into the sea.

+ Be able to present the equipment to carry out the life-saving work.

+ Be able to present the contents of safety work in fire and explosion prevention.

+ Describe the safety work in life-saving, perforation rescue, fire-fighting, first aid when there are people in distress.

+ Be able to describe the signs of storms at sea to proactively prevent them.

+ Handle situations when communication is lost at sea.

Skills:

+ Be able to use equipment and tools to save people falling into the sea.

+ Be able to use equipment and tools to carry out life-saving work.

+ Be able to use firefighting equipment, tools and procedures.

+ Be able to use medical equipment and tools to carry out emergency work for victims.

+ Be able to use equipment and tools to survive at sea when forced to leave the ship.

+ Be able to use communication equipment and tools to seek help when encountering a ship in distress.

Attitude:

Have a positive, proactive, careful working attitude, obey the captain's orders and orders, form a careful working style, follow the right process, follow the right operation to prevent possiblerisks.

Having a sense of environmental protection and the sovereignty of the sea and islands of the Vietnamese Fatherland; having a love for the profession, actively studying and cultivating professional knowledge and skills for the development of the profession in the future.

II. SUBJECTS OF REFRESHER TRAINING: Fisherman in Phu Yen province

III. REFRESHER TIME: 74 hours (Theory 18 hours; Practice 49 hours, test 7 hours)

IV. LIST OF MODULES, TRAINING TIME FOR MODULES

No.	Code Module	Module Name	Refresher time (hours)			
			Total numercial	Of which		
				Theory Lecture	Real ,	checklist RETURN
1	MD01	Capacity to handle when people fall into the sea	10	2	7	1
2	MD02	Capacity to handle when the vessel is punctured	8	2	5	1
3	MD03	Capacity to handle when there is a fire on board.	11	3	7	1
4	MD04	Initial first aid capacity when someone is injured	14	4	9	1
5	MD05	The ability to survive at sea when leaving a ship.	10	2	7	1
6	MD06	The ability to detect and monitor storms at sea.	9	2	6	1
7	MD07	Ability to prevent loss of communication.	12	3	8	1
Total			**74**	**18**	**49**	**7**

Note: The integration test time between theory and practice is included in practice hours

V. CONTENT DESCRIPTION OF MODULES

1. Module **01: Capacity to handle when people fall into the sea**

Time: 10 hours

1.1. Objectives

After completing this module, learners are able to:

- Be able to present the basic knowledge of safety when people fall into the sea;
- Be able to use life-saving equipment such as personal life buoys, life jackets;
- Implement effective coordination between the person who detects a person falling into the sea and the driver or captain.

1.2. Contents

- Lifesaving buoys and methods of use;
- Some measures to handle situations when people fall into the sea.

1.3. End-of-module assessment exercise: Practicing using round life buoys

2. Module 02: Capacity to handle a perforation *Time: 8 hours*

2.1. Objectives

After completing this module, learners are able to:

- Be able to present the basic knowledge of safety in perforation rescue;
- Implement safety when the vessel has a perforation problem with the possibility of water overflowing into the vessel, leading to the risk of the vessel capsizing or sinking.

2.2. Contents

- Some measures to handle when the ship capsizes or sinks;
- Some measures to handle when the ship is overrun by water.

2.3. Module end assessment exercise: Practice safety when the vessel is punctured and water overflows into the vessel.

3. Module 03: Capacity to handle fire on board *Time: 11 hours*

3.1. Objectives

After completing this module, learners are able to:

- Be able to present the basic knowledge of safety in fire prevention and control on fishing vessels;

- Implement safety when the train has a fire incident.

3.2 Content

- Fire protection equipment and their location on board;
- Flame retardants.
- Fire protection sequence.

3.3. End-of-module assessment exercise: Practicing safety when on board a ship with fire

4. Module 04: Initial first aid capacity when someone is injured

Time: 14 hour

4.1 Objectives

After completing this module, learners are able to:

- Be able to present the basic knowledge of first aid when someone is injured at sea.
- Practice first aid when someone is injured.

4.2. Contents

- Skills to locate the lesion;
- Skills in using tools in first aid bags;
- Skills to handle when the victim suffocates;
- Basic hemostatic skills;
- Bandage skills for fractures and sprains;
- Handling skills when stunned.

4.3. End-of-module assessment exercise: Practicing safety when someone is injured

5. Module 05: Survival at Sea When Leaving a Ship *Time: 10 hours*

5.1. Objectives.

After completing this module, learners are able to:

- Be able to present the basic knowledge when encountering incidents to take measures to survive at sea when leaving the ship.
- Practice safety when leaving the ship.

5.2. Content.

- Action applied when it is necessary to leave the ship;
- Actions applied while in the water.

5.3. End-of-module assessment exercise: Practice safety when the train has to leave the ship in trouble.

6. Module 06: Capability to Detect and Track Storms at Sea

Time: 9 hour

6.1. Objectives

After completing this module, learners are able to:

- Be able to present the basic knowledge to detect and monitor storms at sea.

6.2. Contents

- Sky state observation skills;
- Skills to observe the state of the sea surface and the state of the creatures around the fishing vessel.

6.3. End-of-module assessment exercise: Practicing storm safety

7. Module 07: Communication Loss Prevention Capacity *Time: 12 hours*

7.1. Objectives

After completing this module, learners are able to:

- Be able to present the basic knowledge in preventing communication loss.
- Be able to use the communication equipment systems on board.

7.2. Contents

- System of maritime safety and emergency information equipment.
- Communication method .

7.3. End-of-module assessment exercise : Practice using on-board communication equipment.

VI. CONDITIONS FOR IMPLEMENTATION OF THE MODULE

1. Teching document

Vocational training module Practicing occupational safety on fishing vessels. MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT. 2023

2. Conditions of teaching equipment and auxiliary equipment

+ 01 projector, 01 computer.

+ Paintings and drawings on labor safety on fishing vessels.

3. Facility conditions

+ 01 classroom with enough tables, teacher tables and chairs for a class of 30 people.

+ Tools, equipment and supplies for refresher: Life buoy; Life vest buoy; Water pump + water hose; Foam bottle; CO_2 bottle; Powder bottle; First aid kit; Medicine bag and first aid kit.

VII. ASSESSMENT METHODS AND CONTENT

1. Evaluation methodology

- Knowledge assessment: using objective multiple-choice methods or oral questions.

- Vocational skills assessment: assess learners' vocational skills through practical exercises, teachers evaluate through observation and monitoring of learners' actions, implementation attitudes and practice results.

- Module end-of-module test: Group test (each group of 3 to 5 people) or individual test: Perform a description of a task performed in the module or perform a learner test according to the questionnaire prepared by the teacher in advance, the teacher evaluates through observation and monitoring the learner's actions, attitudes and practice results.

2. Evaluating content

Theory: Multiple-choice tests or quizzes on the contents contained in each lesson in each module.

Practice: Operate the accident prevention process safely.

VIII. IMPLEMENTATION INSTRUCTION

1. Scope of application of the program

The training program "safety capacity in working on board for fisherman" is used to train fisherman in Phu Yen province when there is a need or at the request of a competent management agency; It can be organized at refresher facilities or localities.

The training program consists of 7 independent modules, learners can optionally study the modules according to their needs. At a minimum, students are required to graduate from primary school.

When students complete 07 modules in this program and achieve average or higher results at the end-of-course exam, they are granted a certificate of completion. In case of studying each module (if required), a certificate of completion of the module can be issued.

2. Guide some key points on module teaching methods

Each module has both theoretical and practical parts, so it is advisable to conduct both theoretical and practical learning in parallel so that learners can easily remember and absorb the lesson well.

a) Theoretical part

Teaching methods: To teach these modules, teachers need to have good expertise and practical skills, combining a variety of flexible teaching methods, teaching methods for adults, associated with practical activities at learners' fishing vessels.

- In addition to materials, teachers should use visual learning tools such as models, tables, drawings, videos... to support teaching.

b. Practical part: practical guidance through the implementation of practical tasks.

- The teacher invites one or more learners in the classroom to demonstrate the actions in the practice and invites other learners to comment, then synthesizes and makes practical case comments, outlining obstacles and errors that have been or may be encountered while performing the work and how to overcome them. Finally, divide the class into groups to perform until the requirements are met.

3. References:

- Textbook of Captain of 2nd class fishing boat - Institute of Fisheries Exploitation Science and Technology - Nha Trang University (2023)

- Pham Thuy Linh (2014), Propaganda and guidance materials to ensure the safety of people and means of fishing activities at sea - Hong Duc Publishing House

- Other relevant documents.

4.3. Evaluation of the training program on safety capacity in working on board for fisherman in Phu Yen province through expert opinions

4.3.1. General basis for evaluation of training program on safety capacity in working on board for fisherman in Phu Yen

4.3.1.1. Purpose of evaluation

In order to assess the correctness of the theoretical basis, the appropriateness of the content of the training program, the feasibility of the training program for safety capacity in working on board for fisherman in Phu Yen province.

4.3.1.2. Scale of evaluation: Number of experts to collect opinions: 26 people

4.3.1.3. Evaluation method

Combine the survey method with questionnaires and face-to-face interviews with experts to collect information and comments from experts. After collecting independent opinions of experts, the results will be processed by descriptive statistics.

4.3.1.4. Assessment tools

The opinion form is designed with closed and open questions to seek expert opinions on the feasibility and suitability of the training program

4.3.2. Evaluation results through expert opinion

a) Expert assessment on the necessity of developing a training program on safety capacity in working on board for fisherman in Phu Yen province

From the assessment results of experts on the necessity of developing a training program on safety capacity in working on board for fisherman in Phu Yen province, the majority of opinions said that the development of a safety practice capacity training program on safety capacity in working on board for fisherman is necessary (76%), there are 24% of experts said that it is very necessary and 0% said that it is less necessary or unnecessary.

b) Evaluation of the determination of the content of fostering safety capacity in working on board for fisherman in Phu Yen province

From the evaluation results of experts on the content of fostering training program on safety capacity in working on board for fisherman in Phu Yen province, 64% of experts said that the fostering content is fully and appropriately proposed to train workers to catch seafood in Phu Yen province. 44% of respondents said that the content of the program is incomplete, further research is needed, and 12% of respondents think that the content of the program is inadequate and not suitable for training.

c) Evaluation of the duration of training modules in the training program on training program on safety capacity in working on board for fisherman in Phu Yen province

The expert opinion shows that the training duration in each module is considered to be sufficient (accounting for the highest proportion with 68%), so it can be seen that the theoretical and practical duration in each module built is appropriate.

d) Evaluation of the expert on the feasibility of the training program on safety capacity in working on board for fisherman in Phu Yen province

Based on the evaluation of experts on the feasibility of the training program on safety capacity in working on board for fisherman in Phu Yen province , the majority of experts think that the training program for safety practice on fishing vessels for fishing workers is feasible (72%), there are 16% of experts think that it is very feasible, 8% of experts think that it is less feasible and 4% of experts think that it is not feasible.

Thus, it can be seen that the majority of experts believe that training program on safety capacity in working on board for fisherman in Phu Yen province is feasible.

e) Analysis of qualitative results through interviews with experts on the training program on safety capacity in working on board for fisherman in Phu Yen province

In order to clarify the contents of the proposed training program, we conducted in-depth interviews with 8 experts participating in the evaluation of the training program on safety capacity in working on board for fisherman in Phu Yen province to record more comments, thereby serving as a basis for editing the proposed content.

Summarizing the opinions of interviewing experts participating in the training program, the majority of opinions agreed on some of the following contents:

1) In terms of structure and training content: The total program consists of 7 modules with 74 hours is in line with the practice of professional training for fisherman in Phu Yen province today. The structure and content of the training program closely follow the training objectives. The volume of knowledge meets the content of the objectives.

It is suggested that modulus 6 and modulus 7 should be combined into one module. However, these two modules can complement each other, so the separation into two modules is to create conditions for learners to choose to participate in the course, without being affected by the time of participating in the course.

2) On the detailed outline of the modules: The detailed outline of the modules clearly states the objectives. teaching methods, evaluation of results, with references. in line with the current trend of application-oriented career training. However, it is necessary to study more practice time in each module in the refresher program to improve skills for learners.

3) In terms of facilities, equipment and teaching staff to implement the training program: With the number of equipment for basic training activities to meet and ensure the implementation of the quality requirements of the training program. However, this is the minimum number, refresher institutions need to supplement some practical equipment on first aid and fire prevention and fighting equipment on board to diversify knowledge and skills for students in the practice process.

****) General assessment of the results of expert opinions on the training program on safety capacity in working on board for fisherman in Phu Yen province***

Through the survey of experts, most experts believe that it is necessary to develop a training program on safety capacity in working on board for fisherman in Phu Yen province, agreeing with the proposal on the content of the training program, the duration of each training module.

4.3.3. Implementing the training program on safety capacity in working on board for fisherman in Phu Yen province (quasi- experiment)

4.3.3.1. Approximate experimental purpose (quasi-experimnets)

Conducting this experiment, do not divide the group randomly during the experimental organization (divided into 2 groups including experimental group and control group) but choose the form of approximate experiment (quasi – experiment) to calculate the effectiveness and feasibility of the training program on safety capacity in working on board for fisherman in Phu Yen province on the content of the program, the duration of the training, the necessity of the training module, the method and form of training organization.

4.3.3.2. Experimental subjects

30 fisherman living and operating in the fishing industry in Phu Dong ward, Tuy Hoa city, Phu Yen province were selected to participate in the experimental class.

4.3.3.3. Experimental content

From the actual results of safety practice capacity on fishing vessels of fishing workers in Phu Yen province, 2 modules: "Capacity to handle when there is a fire on board" (MD3) and "Initial primary capacity when people are injured at sea" (MD4) are assessed at a weak level. Therefore, the researcher chooses to organize training for these two modules in pedagogical experimentation.

Experimental results will assess changes in learners' competencies before and after fostering.

4.3.3.4. Experimental process

4.3.3.5. Tools and methods for evaluating experimental results

*4.3.3.6. Experimental progress period***:** From July to October 2023

4.3.4. Experimental results

4.3.4.1. Experimental results of Module 3: Capacity to handle when there is a fire on board

Through the experimental results of fostering module 3: "Capacity to handle when there is a fire on board" for fisherman, the comments and assessments are recorded as follows:

The post-training average score (7.80) is significantly higher than the pre-training average score (5.63). This proves that the learning results after fostering are higher than before fostering.

Before the refresher, the *"Capacity to handle when there is a fire on board"* of seafood workers participating in the experiment was mainly average (accounting for 46.6%) and quite accounted for 26.7%, the good level accounted for very low (6.6%). However, after being fostered, the rate of capacity rating increased by 30%, the percentage of workers fishing for seafood reached the average level decreased markedly (down 40%). In particular, the percentage of good ratings increased sharply (up 26.7%).

In addition, the post-facilitation dispersion coefficient is only 14%; while the pre-facilitation dispersion coefficient is 27%; proving that the handling capacity when there is a fire on the ship of workers catching seafood after fostering has been significantly increased compared to before fostering.

4.3.4.2. Experimental results Modul 4: Initial first aid capacity when someone is injured

From the experimental results of fostering the module "Initial first aid capacity when someone is injured", the comments and assessments are shown as follows:

The post-training average score (7.56) is significantly higher than the pre-training average score (6.23). This proves that the learning results after fostering are higher than before fostering.

Before the refresher, the capacity of seafood workers participating in the experiment was mainly at the average level (accounting for 63.3%) and the good level accounted for 30%, the good level was very low (3.4%). However, after being fostered, the percentage of fisherman participating in the experiment was quite increased by 30%, the percentage of workers fishing for seafood decreased markedly on average (down 46.7%). In particular, the rate of good ratings increased sharply (by 20%).

In addition, the post-training dispersion coefficient is only 15%; while the pre-training dispersion coefficient is 17%; proving the "initial first aid capacity when someone is injured" of fisherman after training has been significantly increased compared to before training.

****) General evaluation of experimental results***

Through the results of pedagogical experimentation (quasi- experiments), it can be confirmed that the contents of fostering safety capacity in working on board for fisherman in Phu Yen province are designed according to the proposed module, which is appropriate and feasible, reflected in the results of students' professional capacity improved compared to before being fostered first.

CONCLUSION OF CHAPTER 4

Based on theoretical analysis and actual results, the thesis has proposed a program to foster safety capacity in working on board for fisherman in Phu Yen is built on capacity access. The content of the program consists of 7 modules, which show the objectives, content, training time, conditions for program implementation and form of assessment for each module.

After developing the training program, continue to collect expert opinions and conduct pedagogical experiments (quasi-experiments) to confirm the necessity and feasibility of the proposed training program content. The results of the expert opinion confirmed that the proposed training program is necessary and feasible, in accordance with practical requirements

CONCLUSION AND RECOMMENDATION

1. CONCLUSION

Firstly, from the synthesis and analysis of published scientific works, it is quite clear that the overview of domestic and foreign scientific works on professional capacity and fostering on professional capacity for fisherman

Secondly, after conducting a survey and evaluation, it was determined that the actual situation of fostering safety capacity in working on board for fisherman in Phu Yen in Phu Yen province.

Thirdly, on the basis of the theory and current situation of fostering safety capacity in working on board for fisherman in Phu Yen, the objectives and fostering content have been determined. Since then, developing training program safety capacity in working on board for fisherman in Phu Yen including 7 modules with a reasonable training duration. With the above

research results, we can evaluate training program safety capacity in working on board for fisherman in Phu Yen, which can be applied or replaced with short-term training programs related to labor safety content for fishing.

Fourthly, after conducting expert opinions and initial pedagogical experiments, it was confirmed that the proposed training program was necessary and feasible.

RECOMMENDATION

2.1. For foster institutions

With the view of approaching capacity in program development, facilities must adapt to the training content. Therefore, when developing the program, it is necessary to pay attention to the design of teaching media suitable to the conditions of fostering and diversifying the forms of fostering in order to create the most favorable conditions for fisherman to have the opportunity to participate in training courses.

2.2. For teachers participating in foster training

Teachers involved in training must really love the profession, be enthusiastic about the profession, and have knowledge and experience in professional training for fisherman;

Teachers need to carefully study the training program and learning characteristics of fisherman to make adjustments to appropriate training methods and forms.

2.3. For fisherman

It is necessary to be aware of the importance of learning and training professional capacity in general, safety capacity in working on board for fisherman in particular for their professional activities. Overcome your difficulties to rise in learning to improve your level.

LIST OF PUBLISHED SCIENTIFIC RESEARCH RELATED TO THE DISSERTATION

1. Nguyen Tri – Vo Thi Ngoc Lan (2022). Overview of research on professional competency training for fisherman in Vietnam, *Journal of Education, Special Issue 3 – April 2022, pages 226 - 231.*

2. Nguyen Tri – Vo Thi Ngoc Lan (2022). Measures to improve the quality of professional competency training for fisherman in Phu Yen province, *Journal of Education, Special Issue 3 – April 2022, pages 252 - 256.*

3. Nguyen Tri – Vo Thi Ngoc Lan (2023). Research and propose the professional competence framework of fisherman, *Journal of Education, Special Issue 1 – March 2023, pages 299 - 302.*

4. Nguyen Tri – Vo Thi Ngoc Lan (2023). Fostering professional competency for fisheman according to the implementation capacity approach, *Proceedings of the second national technical pedagogy workshop, September 2022, pages 350 -362.*

5. Nguyen Tri – Vo Thi Ngoc Lan (2024). The current situation of fostering the safety capacity in working on board for fisherman in Phu Yen province, *Journal of Equipment Education, Special Issue May 2024, pages 461 - 463.*

6. Nguyen Tri (2024). Develop a training program on safety capacity in working on board for fisherman in Phu Yen province, *Journal of Equipment Education, Special Issue May 2024, pages 464 - 466.*