IALA Model Course

V-103

On

Train the Trainer

Edition 1

August 2013



AISM Association Internationale de Signalisation Maritime IALA



Document Revisions

Revisions to the IALA Document are to be noted in the table prior to the issue of a revised document.

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| Date | Page / Section Revised | Requirement for Revision |
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Foreword

The International Association of Marine Aids to Navigation and Lighthouse Authorities has been associated with Vessel Traffic Services since 1955 and recognises the importance of human resources to the development of efficient Vessel Traffic Services worldwide.

Taking into account the International Convention on Standards of Training, Certification and Watchkeeping of Seafarers, 1978, 2011 as amended (STCW Convention), the Seafarer’s Training, Certification and Watchkeeping Code (STCW Code) and STCW 95 Resolution 10, IALA has adopted Recommendation V-103 on Standards of Training and Certification of VTS Personnel.

The model training courses developed by IALA for VTS Personnel are:

Model Course V-103/1 - VTS Operators

Model Course V-103/2 - VTS Supervisor

Model Course V-103/3 - On-the-Job Training

Model Course V-103/4 – On the Job Training Instructor

Model Course V-103/5 – Train the Trainer of VTS Personnel

These model courses are intended to provide IALA Members and other appropriate Authorities charged with the provision of Vessel Traffic Services with specific guidance on the training of VTS FacilitatorsTTI. They may be used by maritime training Institutes and assistance in implementing any course may be obtained through the Association at the following address:

The Secretary General,

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# PART A - COURSE OVERVIEW

## **COURSE OVERVIEW**

IALA recommends that training providers utilise accredited training courses as per IALA Guideline1014. This model course contains a generic Train the Trainer course. It is meant to supplement Model Courses V103/1 – VTS Operator, V103/2 – Vessel Traffic Services Supervisor Training, V-103/3 - On-the-Job Training, V-103/4 – On the Job Training Instructor and IALA Guideline 1027 – Simulation in VTS Training. Where-ever in this document a reference to one of the model courses is made this is meant as an addition to the ‘ Train the trainer’ course.

In order to set up a effective and efficient training system a training management system, should be in place according to the requirements in model course V103/3, including continuous professional training of teachers, instructors and assessors.

## PURPOSE OF THE MODEL COURSE

The purpose of the model course is to assist maritime training organisations and their teaching staff in the preparation and introduction of new training courses for future Trainers, Teachers and/or Instructors (furhter referred to as TTI’s), and in enhancing, updating or supplementing existing training material where the quality and effectiveness of the training courses may thereby be improved.

This manual provides the facilitator of the Train the trainer course with the content, sequencing and material required to train future TTI’s.

This course provides the trainee with the knowledge and tools to maintain, develop and deliver the V-103 modelcourses.

## TARGET GROUP

The course is designed for personnel of a maritime training organization assigned with the task of training professionals of VTS within that organization. The trainees of this training will become either teacher, trainer or instructor within the VTS-organization. Staff training VTS personell will themselves perform on or above standard with regard to the topics they teach.

The facilitator should possess a licence in teaching satisfactory to the competent authority. Staff already qualified in the field of didactics, by means of a training equivalent to IALA guidelines or beyond do not have to do the Train the Trainer module course.

The trainee of this course will receive a certificate upon completion of the module course.

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## USE OF THE MODEL COURSE

The complete course comprises five modules, each of which deals with a specific subject representing a task or role of the future TTI. Each module contains a subject framework stating its aims and subject outline.

The course should also provide Facilitators with different tools, such as methods and procedures to develop/adjust (parts) of a training, adequate teaching methods, and methods to evaluate the training. Hereby assuring quality of training in the facility. The information in this document has been drawn up by an international group of experts in the area of Train the trainer courses. The experts are all IALA participants, striving for uniformity of this standard.

# PART B - DELIVERY OF THE MODEL COURSE

## INTRODUCTION

All training and assessment of personnel for gaining the course certificate as part of the qualification towards becoming a TTI should be:

1  structured in accordance with written programmes, including such methods and means of delivery, procedures and course material as are necessary to achieve the prescribed standard of competence; and,

2  conducted, monitored, assessed by persons qualified in accordance with the Training Management System.

Training staff should review the course outline and detailed syllabus in each subject. The actual level of knowledge, skills and prior technical education of the trainees in the subject concerned should be kept in mind during this review. A gap analysis may reveal any differences between the competencies of the trainees and those described in the detailed training syllabus should be identified. To compensate for such differences, the facilitator is expected adjust the course accordingly. This means to delete from the course, or reduce the emphasis on, items dealing with those competencies already attained by the participants. The gap-analysis provides insight into the competencies which have not already been acquired, and may need extra attention.

REQUIRED COMPETENCE

PERSONAL COMPETENCIES

Gap analysis

## COURSE MODULES

The modular presentation enables the facilitator to adjust the course content to suit the trainee’s intake and provide any revisions of the subject objectives as required. The facilitator should draw up lesson plans based on this detailed syllabus and the references in them to the textbooks and teaching material suggested for the course. Where no adjustment has been found necessary in the subjects of a detailed syllabus, the lesson plans may simply consist of the topics indicated in the detailed syllabus with keywords, timeframes and required materials.

Each competence is defined in terms of the learning objectives, required knowledge, skills and attitude. The recommended competence for each subject is indicated in the Subject Outline of each module.

## SUBJECT OUTLINE

The subject outline of each module also includes a total recommended number of hours that should be allotted to each module. However, it should be appreciated that these allocations depend upon the gap-analysis. The training staff should therefore review carefully lesson plan design and consider the need to reallocate the time required to achieve each specific learning objective.

# Part C - GUIDELINES FOR FACILITATORS

## INTRODUCTION

This module is designed for adult learners. Throughout the years it has been recognised that the strategy used by adult learners differs from the strategy used by younger students. In order to have the maximum effect of training it is crucial to use the appropriate learning methods.

Six priniples of Adult Learning

Part of being an effective educator involves understanding how adults learn best (Lieb,1991). Andragogy (adult learning) is a theory that holds a set of assumptions about how adults learn. Emphasised is an approach which is based on **problem-based and collaborative learning. In an adult setting the facilitator is encouraged to create an atmosphere of equality between the teacher and trainee**.

Current literature distinguishes six principles:

1. Adults are internally motivated and self-directed
2. Adults bring life experiences and knowledge to learning experiences
3. Adults are goal oriented
4. Adults are relevancy oriented
5. Adults are practical
6. Adult learners like to be respected
7. Adults are internally motivated and self-directed

Adult learners resist learning when they feel others are imposing information, ideas or actions on them. It is the role of the facilitator to facilitate a trainee’s movement toward more self-directed and responsible learning as well as to foster the trainee’s internal motivation to learn.

The facilitator can:

* Set up a graded learning program that moves from more to less structure, from less to more responsibility and from ore to less direct supervision at an appropriate pace that is challenging yet not overloading for the trainee.
* Develop rapport with the trainee to optimise your approachability and encourage asking of questions and exploration of concepts.
* Show interest in the trainee’s thoughts and opinions. Actively and carefully listen to any question asked.
* Lead the trainee toward inquiry before supplying them with too many facts.
* Provide regular constructive and specific feedback (both positive and negative).
* Review goals and acknowledge goal completion
* Encourage use of resources such as internet, manuals, new-paper and so forth.
* Set projects or tasks for the student that reflect their interests and which they must complete and ‘tick off’ over the course (portfolio).
* Acknowledge different ‘learning preferences’ of the trainees.

1. Adults bring life experiences and knowledge to learning experiences

Adults like to be given the opportunity to use their existing foundation of knowledge and experience gained from life experience, and apply it to their new learning experiences.

* Find out about about his trainee – their interests and past experiences (personal, work and study related)
* Assist the trainee to draw on those experiences when problem-solving, reflecting and applying clinimcal reasoning processes.
* Facilitate reflective learning opportunities

1. Adults are goal oriented

Adults become ready to learn when "they experience a need to learn it in order to cope more satisfyingly with real-life tasks or problems" (Knowles,1980 p 44, as cited in Fidishun, 2000). Your role is to facilitate a trainee’s readiness for problem-based learning and increase the trainee’s awareness of the need for competencies presented. The facilitator can:

* Provide meaningful learning experiences that are clearly linked to training professionals.
* Provide real case-studies and examples as a basis from which to learn about the theory, methods, implications and relevance.
* Ask questions that motivate reflection, inquiry and further research

1. Adults are relevancy oriented

Adult learners want to know the relevance of what they are learning to what they want to achieve. One way to help trainees to see the value of their observations and practical experiences throughout their placement, is to:

* Ask the trainee to do some reflection on for example, what they expect to learn prior to the experience, on what they learnt after the experience and how they might apply what they learnt in the future, or how it will help them to meet their learning goals.

1. Adults are practical

It is recommended to have a follow up day, where TTI’s discuss training issues after their certification. Adults learn most from practical examples. Discussion among TTI’s have been proven very fruitfull in enhancing the quality of the training process. These ‘callibration’ sessions align TTI’s to eachother, thereby increasing the reliability of training and assessment. It also enables the company to direct training in the direction of their company goals.

6. Adult learners want to be respected

Respect can be demonstrated by:

* Taking interest
* Acknowledging the wealth of experiences that the trainee brings to the placement.
* Regarding them as colleague who is equal in life experience.
* Encouraging expression of ideas, reasoning and feedback at every opportunity.

## LESSON PLANS

The modular presentation enables the instructor to adjust the course content and provide any revisions of the subject objectives as required. The facilitator should draw up lesson plans based on each detailed syllabus and the references in them to the textbooks and teaching material suggested for the course. Where no adjustment has been found necessary in the learning objectives of a detailed syllabus, the lesson plans may simply consist of the detailed syllabus with keywords, timelines and required material.

The Subject Outline, of each module also includes a recommended assessment of the time that should be allotted to each subject. However, it should be appreciated that these allocations depend on the entry level of the TTI’s. The instructor should therefore review carefully these assessments during course and lesson plan design and consider the need to reallocate the time required to achieve each specific learning objective.

A detailed teaching syllabus of each module has been written in learning-objective format in which the objective describes what the trainee must do to demonstrate that knowledge has been transferred. All objectives are understood to be prefixed by the words:

*the expected learning outcome is that the trainee has acquired the recommended levels of competence in conducting training*

In preparing a teaching scheme and lesson plans, the facilitator is free to use any teaching method or combination of methods that will ensure that trainees can meet the stated objectives. However, it is essential that trainees attain all objectives set out in each syllabus.

Evaluate

Analyse

Apply

Understand

Remember

## ASSESSMENT

Continuous assessment of participants should be undertaken. In many cases the assessment can be based on the participants’ competence, demonstrated via assignments. These assessments are required for the purpose of certification.

Following Bloom’s taxonomy on learning strategies, 6 levels of cognitive learning can be distinguished, 5 levels of affective learning and 5 levels of psychomotor learning. When these are applied to the profession of VTSO, the following levels can be distinguished: 1) Remember 2) Understand 3) Apply 4) Analyse/Synthesise 5) Evaluate 6) Create. Level 6 is the level of policy makers. Level 5 is generally the level of the supervisor. For the work of the VTSO level 6 is not taken into account. Since level 5 may occur occasionally this level is included in the model.

Appendix C contains the verbs attached to this taxonomy. These verbs structure the exam and assessments and give weight to questions/assignments/exercises and so forth.

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## IMPLEMENTATION

For the course to run smoothly and effectively, considerable attention must be paid to the availability and use of:

* qualified facilitator
* support staff
* facilities
* equipment
* textbooks, technical papers
* Computers, internet connections
* Audio/Video material
* other reference material.

Thorough preparation is key to successful implementation of the course.



# Part E - COURSE MODULES

The complete course comprises five modules, each of which deals with a specific subject representing a requirement or function of a VTS Trainee.

| Competence Area | Aim/learning outcome | Hours per module | |
| --- | --- | --- | --- |
| Lecture | Exercise |
| Module 1  Training development | 1. Makes a gap analysis 2. Translates training needs into teaching goals. 3. Describes learning objectives 4. Describes and uses the SMART acronym 5. Sequences the training elements logically 6. Draws up a lesson plan 7. Links objectives to parts of the syllabus 8. Plans teaching aids and reference material 9. Makes a time schedule 10. Evaluates and adjusts the training | 2 | 4 |  |
| Module 2 Instructional Techniques  Teaching Methods  Classroom Instruction  Simulator Instruction | 1. Describes and applies a variety of teaching methods. 2. Explains the advantages and disadvantages of each method 3. Links teaching methods to learning objectives 4. Chooses a student centred approach. 5. Prepares a lessons 6. Tailors instruction to student’s needs 7. Knows how to operate equipment 8. Knows the exercises, scenario’s that will be used 9. Shows an understanding of the influence of his instruction style on the learning process 10. Establishes a safe classroom atmosphere 11. Manages disruptive behaviours | 2 | 4 |
| Module 3 Communications   * Briefing * De-briefing, see amendment A. * Bad news * Feedback. | 1. Conducts a thorough and clear briefing of an exercise 2. Conducts a debriefing according to IALA SOP’s and IALA guideline 1027. 3. Brings bad news effectively 4. Gives constructive feedback according to the feedbackrules in amendment X. 5. Applies various questioning techniques | 2 | 5 |
| Module 4 Assessment   * Assessing Performance, * Assessment Issues, | 1. Knows several methods for assessing performance. 2. States the importance of objectivity while assessing performance. 3. Distinguishes observations from interpretations 4. Knows at least 4 assessment errors. 5. Makes an assessment exercise or exam. 6. Develops an appraisal form for the assessment of performance. 7. Describes some basic considerations about scales. 8. Mentions several methodological mistakes which can be made during assessment. 9. Describes the terms reliability and validity. 10. Describes what inter-rater reliability is and knows remedies 11. Distinguishes observations from interpretations 12. Calculates norms and calculates the (weighted average) 13. Makes a connection between the feedback provided and the learning goals. | 2 | 4 |
| Module 5 Training Management System  Course Administration,   * Quality Control * Evaluations | 1. Holds records of student progress. 2. Shares information with key post holders. 3. Makes an information brochure with rights and duties of the trainees. 4. Describes the effect of privacy legislation on the sharing of information. 5. Evaluates the course. 6. Understands the difference between content validity and criterium validity. 7. Knows and uses the quality management system [IALA guideline 1014, accred. of VTS training courses] implemented by his organization. 8. Follows a system (set up by the training institute or the trainee) to maintain the course material. | 2 | 3 |

## MODULE 1 COURSE DEVELOPMENT

* 1. INTRODUCTION

Instructors should be skilled in the development of training curricula. Although a training may be present and available to training staff, from time to time the training will require alterations. It is shere impossible to adjust or develop a training if there is no basis in terms of a job-description or competence profile. The job-description or competence profile will have to be translated into learning goals. Making changes to a curriculum without referring to learning goals will never be an improvement and must be discouraged. Competencies are the way that we deal with our work and with other people. They are the combination of personality, intelligence and innate skills together with learned knowledge, skills and an attitude, mastered during one’s lifetime.



Performance

Nurture

Nature

Besides a competence profile the facilitator wil want to know what the entry-level of his students is. This will give him essential information regarding the sequencing of topics and the accents he will bring within the topics.

A Gap analysis can be performed by means of an entry test or by reviewing and discussing prior experience of the trainees. The entry level of the trainees will give essential information to the TTI regarding

It is important to set up a time table in order to develop course material, exercises and/or simulator training. Trainees are made aware that sufficient time is taken in order to be sure that resources (such as simulator time) are available. Exercises should be tested before they are used in any training programme.

A vital element in this preperation is the development of a lesson plan. The use of a lesson plan not only gives the course a sound foundation but also raises the Trainees awareness regarding the course content, teaching methods, structure and timing, course materials and facilities.

A thorough evaluation of a course is only possible if the goals of this course are described prior to its execution arrording to the SMART acronym. SMART stands for:

S = Specific

M = Measurable

A = Accepted

R = Realistic

T = Time scaled

1.2 Content

While there are many formats for a lesson plan to choose from a lesson plan should at least contain the following elements:

* Title of the lesson.
* List of objectives, which may be knowledge (what the Trainee knows at lesson completion) and/or skillsy (what the Trainee can do at lesson completion).
* The different components/elements the course contains.
* The sequence of components.
* The teaching methods to be used for this particular component including instruction, video’s and exercises.
* List of required materials.
* Time required to complete the lesson.
* Where a summary is incorporated.
* How the course will be evaluated.
* How the teacher will analyse the effectiveness of the training.
* A continuity report, suggesting changes in the lessonplan, course material, facilities and so on.

A template for a lesson plan can be found in appendix A

## MODULE 2 INSTRUCTIONAL TECHNIQUES

2.1 INTRODUCTION

There are many teaching methods available to enhance adult learning. A sound balance of teaching methods greatly improves the level of activity of the students, their involvement in course-activities and thereby the learning process. It is of the utmost importance that the trainee is familiar with a variety of teaching methods and consciously applies them where appropriate. A well designed course will typically contain different theaching methods.

The active involvement of participants in a course has proven to increase the ability to learn, to retreive and apply the learned material to a large extent. Furthermore when students are aware of what the goals of the training are and what is expected of them at the end of the training, increases their focus, enables them to apply their own learning strategies and therefore improves the end result. Training should always be learner-centered not instructor-centered.

2.2 Content

The Trainee will learn about the different teaching methods and to include these in his lesson plans. The outcome should be a balanced teaching plan which contains a number of teaching methods encouraging the involvement of the trainee. For your convenience a number of teaching methods is presented in Appendix B.

## MODULE 3 COMMUNICATION

Trainee’s should have extensive knowledge about briefing and providing feedback to the student. In order to enhance learning every activity should be as student centred as possible. Good communication form the bases for these important learning activities.

3.1 INTRODUCTION

A future TTI should possess excellent communication skills. These skills consist of:

Briefing and debriefing are the most critica parts of the learning process. Comunication, however is not a skill that we posess by nature. The skill must be learned, maintained and developed. This module provides the Trainee with the tools required to conduct a good briefing and debriefing. While the briefing is often instructor-centered the debriefing should be student-centered. During the debriefing a large part of the learning takes place. It is therefore essential that the debriefing is trainee-centered. Therefore good social skills among which, sensititivity and interpersonal skills combined with excellent communications skills are required. A TTI should be assessed regarding the possession of these skills prior to his appointment as a TTI.

3.2 Content

The participant learns to conduct a good briefing. He learns which elelements should be included in the briefing and practices to give the debriefing to a ‘ student’.

It is adviced to teach how to conduct a debriefing and practice the technique in Appecix B. This way the debriefing technique shall contribute to the learning process.

The module will containt the rules for giving feedback. Participants will practice this skill after having learned the rules.

## MODULE 4 ASSESSING PERFORMANCE

Sometimes the complexity of assessing performance is not fully understood. During this module the trainee will gain full understanding of the importance and methodological constraints of assessing performance.

4.1 INTRODUCTION

While assessing performance many methodological and statistical considerations must be made. Assessing performance is far more complex than making questions or giving someone an exercise. Methodologically the assessment must meet the learning objectives and be a reliable and valid instrument. It is important for the trainee to understand some of the constraints and pittfalls that may arise during asssessment.

Assesments may be made by several means such as: multiple-choice test, open questions, cases, interviews, interview or simulator exercise and so on. The trainee should be able to determine what is a good appraisal and what is not. Using the correct appraisal system, the trainee will be able to make a reliable assessment.

4.2 Content

The trainee learns about the complexity of developing a good assessment. He will be able to link the assessment to learning objectives, develop the assessment, choose an appropriate scale and compare the outcome to a norm. He will be able to calculate the weighted average. Finally he calculates the effectiveness (validity) of the assessment and thinks about increasing the reliability tests/exams.

## MODULE 5 TRAINING MANAGEMENT SYSTEM, COURSE ADMINISTRATION

5.1 INTRODUCTION

While preparing, training, assessing and adjusting the course the TTI will have to keep record of his actions. He will hold personal records about his trainees and their progress. He will also keep a track record about the changes he made in the course material. It is likely that the VTS-organisation incoperated a Quality System. The training will be an essential part of this Quality System.

5.2 Content

The trainee will use the Quality System of the VTS-organisation he works for. He will learn what to register and how. He will find out what is agreed upon regarding privacy laws and regulations. He knows who has access to training information, how and how long. He learns how changes to the course material must be registered and who should be informed about these changes.

# APPENDIX A LESSON PLAN

|  |  |  |  |
| --- | --- | --- | --- |
| Lesson name & ID | | | |
| Target Group | | | |
| Learning objectives | | | |
| Activity/teaching method | | Material | Time  required |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| Assessment | | | |
| Evaluation | | | |
| Modifications | | | |
| Signature Date | | | |

# APPENDIX B TEACHING METHODS

The following is a list of possible teaching methods can be used in training.

**Passive**

Teaching

Reading reference material

Watching video

Listening audio material

Making exercise questions

Observation

Exchange experience

**Semi-active**

Guided discussion

Case study

Asking questions

Pair work

Group exercise

Essay

**Active**

Excursion

Role play

Presentation

Making puzzles

Simulator exercise

Quiz

Game

Fieldwork

Making questions

Teaching by student

# APPENDIX C DEFENITION OF VERBS

Definition of verbs – Level 1

  

**Level 1**: A basic knowledge of the subject. It is the ability to remember essential points, to memorise data and retrieve it.   

|  |  |  |
| --- | --- | --- |
| Verb | Definition | Example |
| Define | State what it is and what its limits are; state the definition | Define VTS service. |
| List | Say one after the other | List the main structure components of a vessel. |
| Name | Give name of objects or procedures | Name the key national and international maritime organisations. |
| Recognise | To know what it is because you've seen it before | Recognise the information contained in the different parts of the AIP. |
| State | Say or write in a formal or definite way | State the meteorological hazards to vessels. |



3.2 Definition of verbs – Level 2

**Level 2**: The ability to understand and to discuss the subject matter intelligently in order to represent and act upon certain objects and events.

|  |  |  |  |
| --- | --- | --- | --- |
| Verb | Definition | Example | |
| Characterise | To describe the quality of features in something | Characterise the main items of VTS equipment. | |
| Consider | To think carefully about it | Consider the benefits of Critical Incident Stress Management (CISM). | |
| Demonstrate | Describe and explain; logically or mathematically proves the truth of a statement | Demonstrate the importance of good communications in VTS. | |
| Describe | Say what it is like or what happened | Describe the methods by which IMO notifies and implements guidelines. | |
| Differentiate | Show the differences between things | Differentiate between different types of visibility. | |
| Explain | Give details about something or describe so that it can be understood | | Explain the purpose and function of IMO. | |
| Take account of | Take into consideration before deciding | | Take account of the limitations of equipment and systems. | |

3.3 Definition of verbs – Level 3



**Level 3**: A thorough knowledge of the subject and the ability to apply it with accuracy. The ability to make use of the repertoire of knowledge to develop plans and activate them.

|  |  |  |  |
| --- | --- | --- | --- |
| Verb | Definition | | Example |
| Act | Carry out, execute | | Act to reduce stress. |
| Apply | Use something in a situation or activity | | Apply the methods of establishing identification. |
| Appreciate | To understand a situation and know what is involved in a problem-solving situation, to state a plan without applying it | | Appreciate the necessary for coordination. (The learner says that the coordination will be done and with whom, he/she does not perform the actual coordination.) |
| Assist | Help somebody to do a job by doing part of it | | Assist the captain. |
| Calculate | To discover from information you already have by arithmetic; to think about a possible cause of action in order to form an opinion or decide what to do | | Calculate water levels. |
| Check | Make sure the information is correct (satisfactory) | | Check availability of information material. |
| Choose | Select out of number, decide to do one thing rather than another | | Choose appropriate lock sequencing. |
| Collect | Assemble, accumulate, bring or come together | | Collect examples of different errors types, their causes and consequences in VTS. |
| Decode | Turn into ordinary writing, decipher | | Decode the content of weather reports and forecasts. |
| Encode | Put into code or cipher | | Encode and decode sailing plans (including supplementary information). |
| Estimate | Form an approximate judgement of a number, form an opinion | | Estimate distance and direction between two points. |
| Execute | Perform action | | Execute corrective actions. |
| Extract | Copy out, make extracts from, find, deduce | | Extract pertinent data from relevant sources to calculate ETA. |
| Identify | | Associate oneself inseparably with, establish the identity | Identify the role of VTS as a service provider and the requirements of the VTS users. |
| Inform | | Inspire, tell | Inform supervisor of situation. |
| Initiate | | Begin, set going, originate | Initiate appropriate coordination. |
| Issue | | Send forth, publish | Issue appropriate traffic information. |
| Maintain | | Carry on, keep up, refresh | Maintain a good situational awareness. |
| Monitor | | Keep under observation | Monitor the effect of human information processing factors on decision making. |
| Obtain | | Acquire easily, without research | Obtain information from the relieving controller. |
| Operate | | Conduct work on equipment | Operate the various items of equipment in the simulator. |
| Perform | | Carry into effect, go through, execute | Perform communication effectively. |
| Relay | | Arrange in, provide with, replace by ... | Relay meteorological information from reports. |
| Respond | | Make answer, perform answering or corresponding action | Respond to distress and urgency messages and signals. |
| Transfer | | Hand over | Transfer information to receiving VTSO. |
| Update | | Refresh, make up-to-date | Update the data display to accurately reflect the traffic situation. |
| Use | | Employ for a purpose, handle as instrument, put into operation | Use approved phraseology. |

3.4 Definition of verbs – Level 4



**Level 4**: Ability to establish a line of action within a unit of known applications following the correct chronology and the adequate methods to resolve a problem situation. This involves the integration of known applications in a familiar situation.

|  |  |  |
| --- | --- | --- |
| Verb | Definition | Example |
| Allocate | Assign, devote | Allocate the lock sequence. |
| Analyse | Examine minutely the constitution of | Analyse the information provided by the radar equipment. |
| Assign | Allot as a share, make over | Assign berth. |
| Coordinate | Bring part into proper relation | Coordinate berth. |
| Delegate | Commit authority to somebody | Delegate a task to a VTSO. |
| Ensure | Make safe, make certain | Ensure the agreed course of action in carried out. |
| Integrate | Combine into a whole, complete by addition of parts | Integrate current conditions into the management of traffic. |
| Manage | Handle, wield, conduct | Manage traffic in the VTS area. |
| Organise | Give orderly structure to, frame and put into working order | Organise priority of actions. |
| Predict | Forecast | Predict positions of vessels in the harbour. |
| Provide | Supply, furnish | Provide information on weather conditions. |



3.5 Definition of verbs – Level 5

**Level 5**: Ability to analyse new situation in order to elaborate and apply one or other relevant strategy to solve a complex problem. The defining feature is that the situation is qualitatively different to those previously met, requiring judgement and evaluation of options.



|  |  |  |
| --- | --- | --- |
| Verb | Definition | Example |
| Balance | Weigh (a question, two arguments, etc., against each other) | Balance traffic demand with the workload. |
| Evaluate | Ascertain amount of, find numerical expression for | Evaluate the necessary information to be provided to captains in need of navigational assistance. |
| Interpret | To decide on something's meaning or significance when there is a choice | Interpret operational information. |
| Select | Pick out as best or most suitable | Select the berth to be used. |

# APPENDIX D DEBRIEFING PROCESS

This appendix contains a method for debriefing offered to you by IALA.

This appendix is a practical tool to be used in the debriefing of the exercises. It contains a system that has become prevalent in aviation after extensive research into the effectiveness of various forms of debriefing by NASA.

**Make the debriefing student oriented.**How much a student actually learns depends to a large extent on an important learning moment, namely the debriefing. Practising is a busy and intense experience for the learner. It is therefore important that after the exercise the has enough time to find out what went right and what went wrong. The instructor facilitates this process and encourages the candidate in his analysis, but does not analyze the situation himself. The student-oriented approach not only encourages learning but also the ability of the student to analyze and be self-critical.

**Encourage the student to be active during the debriefing.**The logic behind this form of debriefing is that adults learn and remember better when they are active and evaluate their performance themselves. Processing the past events in their own minds makes learning far more effective than when they passively listen to the instructor. Processing events actively also gives the student the oppertunity to think about possible solutions. Being active during debriefing allows him to retrieve what he learned more easily at a later moment.

**Encourage self-analysis.**In a debriefing, the objective for the instructor to lead the self-analysis. The student is doing most of the talking, he participates and analyzes. It is the responsibility of the instructor to ensure that the student makes a good analysis. This may not be the same as what the instructor believes to be the best solution. During a good debriefing the student will come up with the correct solution.The ability to analyze their own performance varies from student to student. When a student fails to make a good analysis, the instructor should not take this over. The instructor will ask the right questions leading the student to a good analysis. How this is possible will be later illustrated with examples.QuestionsThe task of the instructor is to ask questions. The debriefing starts with the question:

1. What went well?
2. What went wrong.
3. How would you improve performance?

The instructor gives the student enough time to mention all relevant points.

What the instructor doesThe instructor: completes missed learning goals corrects erroneous statements of the student provides necessary information also gives positive feedback encourages quiet students provides students with sufficient time for analysis Gives a high-performing student also enough time for analysisWhat the instructor avoids

The instructorDoesn’t make it an instructor-oriented sessionAvoids to analyze before the student has done so.Does not give the impression that the student is guided to an answer. This will reduce his/her motivation to self-analyze significantly.Doesn’t make the impression that only the opinion of the instructor counts.Doesn’t interrupt the studentMakes it no cross-examinationApproaches problems positively**Important advantages of this method of debriefing** The student becomes accustomed to evaluating his/her performance  The student will not only answer the ‘ what‘ question but especially the ‘why’ question (more depth) The student can more easily apply what is learned **The disadvantage of this method of debriefing**This method of debriefing takes more time than instruction debriefings. Restrict yourselves to the learning objectives of the exercise. If an exercise was very poor, only discuss a few major points, the most important learning objectives. In that case it is especially important to give positive feedback as well.Facilitation does not mean that the instructor may not give his opinion. Example 1 A good exampleLearner: I don’t know what went wrong. Did I see it too late?Instructor: Did you see it too late?Learner: Well I saw it, but I thought he was going to starboard?Instructor: Why did you think that?Learner: well, I told him that, I assumed that he would do it?Instructor: What would you do differently next time?Learner: Well I'd rather check whether he really is going to do it.Example 1 Bad ExampleLearner: I don’t know what went wrong. Did I see it too late?.Instructor: Well I think so, next time check whether he really intends to go starboard.Example 2 A good exampleLearner: I thought it was going well at that cornerInstuctor: Yes? Why did it go well?Example 2 Bad ExampleLearner: I thought it was going well at that cornerInstuctor: Yes, I agree. Next point then.Example 3 Bad ExampleLearner: I think that it went well with that tanker. What do you think?Instructor: Yes, I agreeExample 3 A good exampleLearner: I think that it went well with that tanker. What do you think?Instructor: I'll save my comments until last.