STANDARD OPERATING PROCEDURES (SOP)

FOR

THE COAST GUARD'S TRAINING SYSTEM

Volume 3

EVALUATION

Performance, Training and Education Branch (FC-51)
Coast Guard Force Readiness Command

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Training Evaluations Overview

Introduction

An evaluation is a process used to measure the value and effectiveness of training. An effective evaluation provides the feedback essential to revise, improve, or justify training and potentially other performance interventions (e.g. policy, qualifications, tool, or equipment).

Purpose

This SOP provides guidelines for conducting standardized evaluations of performance-based courses within the Coast Guard training system. Evaluation data should be used by a variety of Coast Guard entities when making critical training decisions.

Target Audience

This SOP is intended for use by personnel in the Coast Guard training system charged with conducting evaluations, as well as the end users of training evaluations including Program and Training Managers. Although not required, users of this SOP will find familiarization with the basic evaluation process to be helpful.

Background

The Coast Guard's evaluation program is based on Dr. Donald Kirkpatrick's levels of evaluation. The Kirkpatrick model is not the only model available, but it is well-suited to the evaluation needs of Coast Guard training.

This SOP describes the four levels of evaluation in the Kirkpatrick model. The levels are:

- Level 1 – Reaction Evaluation – Captures the student's satisfaction with the training program.
- Level 2 – Learning Evaluation – Assesses the student's ability to demonstrate mastery of Terminal Performance Objectives (TPO) in the training environment.
- Level 3 – Behavior Evaluation – Measures intervention impact on actual on-the-job performance.
- Level 4 – Results Evaluation – Determines benefit to the organization.

Training Evaluations Overview, continued

Level 1 Evaluations

Level 1 *Reaction* evaluations measure the student's reactions to the course content, materials, learning environment, and instructor's performance. The purpose is to capture the student's perspective of the training as well as to enhance learning transfer by affording the students an opportunity for input on their training experience.

Although positive student reactions do not necessarily mean that learning actually occurred, negative student reactions may indicate shortcomings with a course or the training environment which leads to reduced learning opportunities.

Level 2 Evaluations

Level 2 *Learning* evaluations assess the extent to which the training changed attitudes, increased knowledge, and developed or improved skills. Ideally, this is accomplished by measuring the student's ability before and after training takes place in the training environment. Comparing the students' pretest with their post-test results helps to determine the amount of learning that actually occurred and helps shape course content and structure. If the knowledge being introduced to the student is new, there is no need for a pretest (Kirkpatrick and Kirkpatrick, 2006).

These evaluations ensure the student is able to perform the required objective while in the training environment.

Level 3 Evaluations

Level 3 Behavior evaluations measure the graduate's performance of the learned objectives in the actual working environment, i.e., "on the job". Specifically, these evaluations are used to ascertain if newly acquired attitudes, knowledge, and skills are being applied in the workplace. For an accurate assessment, the graduate must be given the opportunity to use these newly acquired behaviors. Typically, a good rule of thumb is to schedule the evaluation approximately 6 months after the training is completed. However, there may be occasions when the timing of the evaluation needs to be adjusted to meet other factors. (For example, an introductory or preparatory course being conducted before the graduates have been assigned to a position utilizing these new skills.)

These evaluations should survey or interview one or more of the following participants: Graduate, graduate's first-line supervisor, someone who is familiar with the graduate's performance since training completion, and/or a subordinate

Training Evaluations Overview, continued

Level 3 Evaluations (continued)

(Kirkpatrick and Kirkpatrick, 2006). The Coast Guard's prescribed method is to survey both the graduates and their supervisors. The data collected provide meaningful insight regarding the transfer of learning from the training environment to the work environment, validate learning objectives, and help identify barriers that detract from this transfer.

Level 4 Evaluations

Level 4 *Results* evaluations measure the organizational impact of the trained behaviors. Commonly referred to as "Return on Investment", level 4 attempts to quantify the value-added of a performance intervention.

Responsibility for level 4 evaluations resides at the program manager/training manager level, thus specific procedures are not detailed in this SOP. Programs wishing to pursue level 4 evaluations should consult with their assigned Headquarters Training Manager. Training Managers should refer to Dr. Donald L. Kirkpatrick's methodology or similar models for implementation.

Survey Tools

The format for evaluations can be survey (paper-based or online) and/or interview. Each has advantages and disadvantages. Select the best option based on opportunity, resources, time, and finances.

To assist with conducting training surveys, FC-51 has purchased an enterprise license for an online survey software produced by Vovici – Enterprise Feedback Management (EFM). This SOP assumes EFM is the preferred method for data collection.

Key Roles in Training Evaluation

Introduction

Depending upon the unit's Personnel Allowance List, roles and responsibilities described within this SOP may be combined or assigned as a collateral duty.

(Roles listed in alphabetical order.)

Course Chiefs

Course chiefs ensure instructors conduct level 1 and 2 evaluations, and implement course changes as recommended by the Training Center (TRACEN) Training Officer (TO) and TRACEN Instructional Design Team.

Enlisted Rate Training Advisory Group

The Enlisted Rate Training Advisory Group (ERTAG) is a group made up of the RFMC, TRACEN, Non-Resident Course Developer, and other stakeholders within each rating. Their responsibility is to determine what tasks should be required for training and advancement.

Evaluation Officers

Evaluation Officers are an informal term for the person assigned by the TOs to manage the evaluation processes at their TRACEN.

Instructional Design Team

The Instructional Design Team at the TRACENs use the evaluation data to determine if the course has been successful in helping students achieve the TPO. They also use evaluation data to modify existing materials to continuously improve training.

Instructors

In addition to teaching, the role of the course instructors is two-fold: They implement data collection strategies for level 1 and 2 evaluations, and they implement course changes as recommended by the TO and Instructional Design Team. Additionally, the instructors convey to the students the importance of providing timely, constructive feedback through level 1 and 3 evaluations.

Program Managers

Program Managers (PM) are staff officers assigned to U.S. Coast Guard Headquarters. They are designated by and responsible to the program director for the detailed management

Key Roles in Training Evaluation, continued

Program Managers (continued)

of a Coast Guard training program. With the data received from level 3 evaluations, they make decisions affecting whether courses are maintained, deleted, or modified.

Rating Force Master Chiefs

Rating Force Master Chiefs (RFMC) are individuals within the PM’s organization, who are responsible for the oversight of a Coast Guard enlisted rating. This oversight includes structural concerns for the rating's size and grade distribution, location of billets, the setting of performance standards, and content of performance qualifications. The RFMC is the principal advocate for ensuring that standards are related to the job and mission performance requirements. The RFMC is responsible for the composition and currency of their managed rating’s enlisted performance qualifications, "A" schools, and "C" schools.

School Chiefs

School chiefs provide the leadership, personnel, and resources needed to collect level 1 and 2 data, and implement course changes as recommended by the TO and TRACEN Instructional Design Team. Additionally, they are often the main link to the RFMC and PM.

Students

The students are the primary source of level 1, 2, and 3 data. Most students give valuable feedback when asked in a professional and unobtrusive manner.

Supervisors

Although the supervisors of course graduates are not a source of level 1 or 2 data, they are a rich source of level 3 data. Some evaluators consider level 3 data from supervisors to be more telling of a graduate’s performance than the data provided by the graduates. Though sometimes more difficult to obtain, supervisors’ feedback results in a much more robust level 3 evaluation.

Training Managers

Training Managers (TM) are assigned to Coast Guard Headquarters, Office of Training, Workforce Performance & Development (FC-512) responsible for all resident and nonresident training and education programs.

Key Roles in Training Evaluation, continued

Training Officers

Training Officers (TO) are responsible for the overall evaluation program at each TRACEN, though the day-to-day administration of this task is generally delegated to an Evaluation Officer.

How to Conduct a Level 1 Training Evaluation

Introduction

Level 1 evaluations measure student reactions to and satisfaction of a course(s) and the training environment (e.g. customer satisfaction survey). “If training is going to be effective, it is important that the student reacts favorably to it. Otherwise, they will not be motivated to learn” (Kirkpatrick and Kirkpatrick, 2006, p. 27). Through the students, we learn how effective the training and education programs are and how they can be improved.

Scope

At a minimum, a level 1 evaluation shall be implemented to assess student reactions to course content (including its relevance to their job), instructor performance, and the classroom environment. A level 1 evaluation shall be implemented for 100% of the student population. The scope of the level 1 evaluation may be expanded to address the overall TRACEN environment, including the galley, barracks, gymnasium, etc.

Write Surveys

When writing a survey for a level 1 evaluation, it is important to keep in mind the following best practices:

- Begin with the end in mind and only ask questions that lead to that end.
- Ask easy questions first to build user confidence.
- Keep the survey short. Balance information needs with survey length.
- Ask “need to know” not “nice to know” questions.
- Ask questions that can be accurately interpreted, consistently answered, and written in such a manner that the student will be willing to answer.
- Ask questions that measure the course content, relevance to the job, instructor’s performance, and the classroom/schoolhouse environment.
- Be specific with questions. Do not write “double barrel questions” such as “the materials were helpful and understandable”. Students may not be able to respond similarly to both points (helpful and understandable).
- Ask demographic questions at the end to maximize survey completion rates.
- Use a 5-point Likert scale for closed-end questions. It’s a more balanced approach in that it has a mid-point and two end-points making it easier for the survey

How to Conduct a Level 1 Training Evaluation, continued

Write Surveys (continued)

participant to distinguish differences between rating options.

- Attempt to keep the same Likert scale throughout the survey. It makes it much easier for the survey participant to complete. For example, use a 5-point scale that goes from “strongly agree” to “strongly disagree” for a majority if not all survey questions.
- Encourage written comments and suggestions through open-ended questions. Comments provide an opportunity to collect important feedback that may otherwise be missed through closed-end questions. However, they do present challenges in the overall analysis.
- Encourage stakeholders to use other means to collect more detailed data on specific areas (e.g. point-of-service surveys).

Deploy Survey

A level 1 evaluation should be provided to all students either near the beginning or near the completion of a course or training module. Available resources will determine what is more practical. Realize that at the conclusion of the training, most students are eager to depart and will not spend a lot of time on the evaluation. Thus, it is important that the training schedule allows sufficient time for the students to complete the survey before the instructor’s final comments. Noting this concern, consideration should be given to provide the students with access to the evaluation at the beginning of an extended training session – typically three days or more. This will enable the students to provide well-thought-out and timely feedback when the events of the class are still fresh in their minds. Otherwise, students may be unable to accurately recall the details of the training to include who their instructor was or accurately recall and rate individual modules of course content. Another option is to incorporate an abbreviated evaluation form in the student’s course material that provides them with the ability to keep evaluation notes that they can transcribe at a later time to an electronic, level 1 evaluation.

The level 1 evaluation is typically administered by course instructor(s), though sometimes the Evaluation Officer does this task. This is usually done using computer workstations and a link to a survey hosted on a Web-based platform like EFM. The instructor should stress the importance of the evaluation, encourage honest and accurate feedback, assist with log-on issues, and ensure completion of the survey. This time can

How to Conduct a Level 1 Training Evaluation, continued

Deploy Survey (continued)

also be utilized to inform students that they will receive a level 3 evaluation in approximately 6 months to assess if they are using the newly learned skills on-the-job.

In addition to providing valuable customer satisfaction data, the level 1 evaluation process also provides an important mechanism for the adult student to have input on the training provided. This ability to contribute input is important to enhance retention and transfer of learned skills to the job.

Example

An example of a level 1 evaluation is provided in Appendix 1. It is for illustrative purposes only and should not be construed as being the only way to conduct a level 1 evaluation.

How to Use Level 1 Data

Introduction

In order for TRACENs to benefit from level 1 data, it must be analyzed and shared with others. The following section provides guidance on what to do with level 1 data.

Level 1 data are intended as feedback for the TRACEN and instructor personnel. Thus, level 1 evaluation data are designed for internal use only at the TRACENs and should not be distributed beyond that point. Additionally, discretion should be used in the sharing of instructor feedback beyond individual instructors and their supervisors, unless a shared culture of open feedback among the instructors is in place. It is important for the Evaluation Officer to establish a distribution process that disseminates the information to everyone that needs it and provides appropriate confidentiality.

Analysis and Findings

It is the responsibility of the Evaluation Officer to compile the level 1 evaluation data and share the findings with the school and TRACEN Instructional Design personnel. The following are some options for analyzing level 1 data:

- Benchmarks: Compare results to known benchmarks (e.g. other TRACENs) and report comparisons.
- Dashboard: Report all areas as dashboard readings (e.g. green, amber, and red).
- High 3: Report the three highest areas on the survey.
- Low 3: Report the three lowest areas on the survey.
- Thresholds: Determine acceptable level of performance, and report all areas that do not meet that level of performance.
- Trends: Compare results to previous time periods and report trends.

It may also be useful to look at sub-groups within the larger sample or investigate further when a large number of comments share a common theme.

Findings are the basis for recommendations and improvements. Decision makers and stakeholders can use the recommendations to address student dissatisfaction or negative reactions to the learning environment. The Evaluation Officer may want to consult with the stakeholders in formulating recommendations.

What to Do with Level 1 Data, continued

Reports

Evaluation Officers must provide their recommendations to decision makers and process owners in a timely manner and in a usable format. These reports can be verbal, paper-copy, electronic, or any combination. Written reports should include “For Internal and Official Use Only” printed on all pages.

How to Conduct a Level 2 Training Evaluation

Introduction

Level 2 evaluations measure student learning and performance in the training environment (i.e. performance test). Level 2 evaluations are administered by course instructors.

Scope

Level 2 evaluations should be conducted on 100% of the student population. The evaluation methods vary widely based on course content; however, all should check student performance in the training environment, i.e., did the student meet the TPO(s).

Tools

Courses developed using the Accomplishment-Based Curriculum Development (ABCD) system are required to have performance tests that can be used as the level 2 evaluations. For courses developed using the Course Design Course (CDC), performance tests can be adapted for use as a level 2 evaluation by following the job aid.

Methods

Performance tests should simulate the standards expressed in the conditions of the TPO, using the highest level of simulation possible. Knowledge-based tests are appropriate only when specified within the TPOs. For instance, when the performance requires “writing” or “calculating a number” or “recalling from memory without references”, the test of the TPO will likely be a paper-based test.

Enabling Objectives (EO) are the building blocks of desired performance (i.e. TPOs). EO may be tested in a variety of formats: verbal response, observed behavior, pen and paper tests (e.g. quizzes), etc. Typically, EO tests will not have the validity and reliability to make a final judgment about a student’s performance. They should be used as a progress check to redirect a student’s learning. Level 2 evaluations should test TPOs and EOs directly and avoid “nice to know” additions.

How to Conduct a Level 2 Training Evaluation, continued

Limitations

Level 2 evaluation data attest to the student's completion of the training curriculum. Students will successfully complete all level 2 evaluations in order to get credit for completion of the course of instruction. TRACENs should have an in-house process for tracking level 2 assessments. The process should include managing students who are not successful in level 2 evaluations including remedial instruction and retest, reversion in training, disenrollment, etc.

Example

Refer to Appendix 2-A and 2-B for examples of level 2 evaluation data collection systems. The exact manner in which a level 2 evaluation is done is left to the discretion of the Training Officer.

How to Use Level 2 Data

Limitations

Although level 2 evaluation data are not typically analyzed in the Coast Guard, some evaluation programs may track data trends for their own purposes. However, guidance for doing so is not provided in this SOP.

How to Conduct a Level 3 Training Evaluation

Introduction

Level 3 evaluations measure whether course graduates have performed the TPOs in the workplace. The prescribed method is a survey administered to both graduates and their supervisors approximately six months after graduation.

Scope

Level 3 evaluations should be conducted for every convening of every "A" and "C" school course. If resource constraints preclude 100% coverage of all convenings, refer to the following table for the minimum required number of completed level 3 evaluations. Remember to take into account non-response (graduates and supervisors who fail to take the survey) and non-completion (graduates and supervisors who fail to complete the survey) rates. These shortfalls may result in needing to increase the number of surveys sent in order to ensure the number of completed surveys are met.

A	B	
Projected Student Load (Per Year) from Curriculum Outline Staffing Standards computation worksheet	**Completed** Surveys Needed (assumes 100% completion rate)	
	Graduate	Supervisor
Less than 28	All	All
28 to 54	28	28
55 to 79	39	39
80 to 109	50	50
110 to 139	60	60
140 to 174	68	68
175 to 224	76	76
225 to 269	84	84
270 to 329	89	89
330 to 399	95	95
400 to 489	100	100
490 to 604	105	105
605 to 759	109	109
760 to 974	113	113
975 to 1294	117	117
1295 to 1819	121	121
1820 to 2839	124	124
2840 to 5999	127	127
6000 or more	130	130

Note: See Appendix 3-C for an explanation of this table and sampling theory.

How to Conduct a Level 3 Training Evaluation, continued

Scope (continued)

To use the table on the previous page, you will need the schedule of classes for a given Fiscal Year (FY), the projected student load from the curriculum outline, an estimate of the lowest expected response rate for a given class, and a mechanism for deriving a random sample. A random sample can be described as a sample where each member in the population has an equal chance of being selected. A random sample can be systematic (every nth class) or derived from a random numbers generator such as a random numbers table, calculator, tossing a coin, or rolling dice. When choosing your sampling scheme, be aware of the following:

1. A systematic sample may follow a pattern which is unknown to the evaluation team (e.g., every fifth class may be held on a cutter; every sixth class is attended by only O-3s instead of a mix of Officers and Enlisted members).

2. Despite some inherent bias, it might be best to select a random schedule that tends to avoid seasons of known low response rate, i.e., holidays.

We suggest only selecting a random sample of classes during the first 3 quarters of the fiscal year that meets the expected completion rate. It is ideal to keep the 4th quarter open to allow for any modifications in the survey schedule should classes be cancelled or the required number of completed evaluations is not achieved.

For example, a class has a projected quota of 500 students, 12 classes, with approximately 42 students per class. Based on the table, we would need 105 completed surveys, assuming there is 100% completion rate. If the expected completion rate is 70%, to achieve 105 completed surveys, the number of evaluations needed to send increases to 150 (105/70%), or 4 classes.

Based on the number of classes needed to evaluate, create a random schedule of classes. For example, one possible random schedule of the 4 classes needed to evaluate (given 12 classes in the FY) could be classes 1, 3, 5, and 6.

To ensure the effectiveness and usability of level 3 evaluations the following criteria should be in place prior to initiating a level 3 evaluation for a specific course.

- Curriculum Outline: Ensure there is a curriculum outline, developed in accordance with the Curriculum Outline SOP, and submitted to FC-51 for review/approval.

How to Conduct a Level 3 Training Evaluation, continued

Scope (continued)

- Terminal Performance Objectives: Ensure each TPO in the curriculum outline is written in accordance with the Curriculum Outline SOP. Valid TPOs are data driven and based on job requirements as identified by PMs. Without valid, specific TPOs, the evaluation will not be accurate.
- Level 2 Evaluations: A level 2 evaluation process is in place for the course of instruction..

Write Survey

Level 3 evaluations are typically administered by the Evaluation Officer to graduates and their supervisors approximately six months after graduation; however, the level 3 survey can be written as soon as a course's TPOs are submitted to FC-51 for review.

Level 3 evaluations must be designed to include items prescribed in FC-51 survey templates. (See Appendix 3-A and 3-B.)

At a minimum, level 3 evaluations should consist of the following:

- An introduction stating the purpose of the survey, the value of the data to the training system, an estimate of the length of time needed to complete the survey, and instructions on completing the survey.
- A question for each TPO listed in the course curriculum outline. The question must ask whether the graduate has performed the TPO. It shall include the performance portion of the TPO. The condition and standard portion of the TPO may be included in the level 3 question but are not required.
- A follow-up question for each negative response to the initial TPO question (i.e., If no, then why? See Appendix 3-A and 3-B.). Survey takers will then choose from five responses. These are:
    - Lack of skills or knowledge to perform the task
    - Have not had the opportunity to perform the task
    - Someone else performs this task at the unit
    - Unit has different equipment than the graduate was trained on
    - Unit has different procedures that the graduate was trained in

How to Conduct a Level 3 Training Evaluation, continued

Write Survey (continue)

After all TPO questions and follow-up questions, there are two additional sections:

- A comment section
- A demographics section

The comment section allows the survey taker the opportunity to explain their responses in more detail.

The demographic section should only include questions that will be analyzed. For example, knowing the graduate's "unit type" is extremely helpful during data analysis and may be a factor in determining performance or non-performance of a TPO. Questions about gender, race, age, educational attainment, marital status, etc. should only be asked if the data will be used in a helpful and ethical way. Questions that survey takers find intrusive will likely lower survey completion rates and negatively affect overall validity and reliability. See Appendix 3-A and 3-B.

Additional questions may be included to meet the individual needs of each TRACEN as long as they are in line with the goals of level 3 evaluations and are used to improve analysis.

Deploy Survey

Once the level 3 survey has been developed, the link to the on-line level 3 surveys is typically e-mailed to graduates and their supervisors approximately six months after graduation. The link may be sent using Microsoft Outlook's e-mail or it may be generated and sent using EFM. Survey responses are captured in the EFM database for analysis.

Research has shown that multiple contacts with the graduates and supervisors when conducting an evaluation can effectively increase response rates more than any other technique. Multiple contacts begin with a pre-notice e-mail, followed by an e-mail with the survey link, and subsequent reminder e-mails (Dillman, 2000).

The pre-notice e-mail should be brief, personalized, positively worded and aimed at building anticipation. If the wording sets a positive tone, it improves the likelihood that the evaluation will not be discarded when it arrives. For the supervisor, it also serves as an opportunity to inform the TRACEN that they no longer supervise the identified graduate. Which in turn provides the TRACENs with the opportunity to update the supervisor records before the level 3 survey is actually

How to Conduct a Level 3 Training Evaluation, continued

Deploy Survey (continued)

deployed. The pre-notice e-mail would typically precede the survey by 2 days to a week.

The link to the on-line survey would typically follow no later than a week after the pre-notice e-mail. The link should be included in a one page, personalized cover letter (e-mail) briefly explaining the importance of the evaluation. It should include a confidentiality statement and the desired date for the survey to be completed. A majority of the participants will respond to the evaluation as soon as they receive it. Thus, asking for the survey to be completed in a week is not unreasonable.

However, one week may not provide the number of responses needed to make an informed analysis. Effort should be made to strive to meet, at minimum, the number of responses needed based on the table on page 16. Reminder e-mails will assist in achieving a higher response rate. The number of reminders and the period of time the survey remains open is the Evaluation Officer or the TO's decision, but two to three reminders is appropriate for extending the survey closure date in small increments for each reminder. Be sure to include the survey link in each reminder e-mail with any other information that may assist the participant in gaining access to the survey. Typically, close the evaluation three weeks after the evaluation was originally deployed.

Limitations

Level 3 evaluations are designed to validate training that the training centers are providing. Level 3 evaluations are rarely used as the sole instrument for making decisions about training or non-training interventions. Decision makers should look for other data to "triangulate" or augment level 3 survey data.

Examples

Examples of the prescribed templates for level 3 surveys are provided in Appendix 3-A and 3-B.

How to Use Level 3 Data

Introduction

In order for TRACENs to benefit from level 3 data, it must be analyzed and shared. The following section provides guidance on what to do with level 3 data.

Analysis and Findings

It is the responsibility of Evaluation Officer to compile the level 3 evaluation data, conduct the analysis, and develop their reports for internal TRACEN use. Any outside requests for the TRACEN level 3 data and or reports must be sent to the respective TRACEN TO for approval.

Level 3 data indicate whether students are actually doing what they were taught in school within the six-month period immediately following graduation. An aspect of this is called knowledge “transfer” (i.e., are students able to take the behaviors learned in the classroom and apply them in the workplace). Another aspect of the Coast Guard level 3 evaluation measures the relevancy of the TPOs to the actual world of work. Ideally, 100% of graduates would answer “yes” to all TPO questions. This would indicate the complete transfer of knowledge, skills, and attitudes of relevant TPOs; it would also provide insight into the effectiveness and efficiency of the training program.

The next step is to examine the responses to the follow-up questions for “No” responses in order to determine why graduates have not performed the TPO. If the responses for not performing include “Lack of skills or knowledge to perform the task,” this may indicate ineffective training which should be further examined.

Demographic data should also be considered, as they may explain why graduates are not performing the TPO. For example, cross-tabulating responses by “unit type” may indicate a trend that only exists at a particular unit. This trend may be less apparent when looking at the group as a whole. Additional comments are far more difficult to analyze than numerical data or answers chosen from a list, but they may also provide information about those not performing the TPOs.

What to Do with Level 3 Data, continued

How to Analyze Level 3 Evaluation Data

The following is provided as a general guideline when reviewing level 3 evaluation results. The initial step in analyzing the data is to identify TPOs that fall outside the established markers (table below). Further analysis of the TPO should be conducted when results exceed the established makers.

Level 3 TPO Data Markers

Category	Marker
1. Lack of skills or knowledge	5%
2. No opportunity to perform	30%
3. Someone else performs this task at the unit	30%
4. Different equipment at unit	25%
5. Different procedures at unit	25%

IF (indicators):	THEN:	Stakeholders
Lack of Skills or knowledge	Investigate: -all level 2 evaluations -providing students with additional practice opportunities	TRACEN/ FC-512
No opportunity to perform	Investigate: - developing job aids - elimination of the task - whether environmental barriers exist - whether there is a lack of supervision and reinforcement for correct performance Consider convening an ERTAG to discuss	PM / RFMC/ FC-512
Someone else performs this task at the unit	Communicate this to the PM and/or RFMC to help resolve.	PM/ RFMC/ FC-512
Different equipment at unit	Communicate this to the PM and/or RFMC to help resolve.	PM / RFMC/ FC-512
Different procedures at unit	Communicate this to the PM and/or RFMC to help resolve.	PM / RFMC/ FC-512

What to Do with Level 3 Data, continued

How to Analyze Level 3 Evaluation Data (continued)

Evaluations officers must provide reports to the internal TRACEN Instructional Design Team in a timely manner and in a usable format. The following are some options for reporting level 3 data:

- Dashboard: Report all areas as dashboard readings (e.g. green, amber, and red).
- Low 3: Report the three lowest TPOs on the survey.
- Trends: Compare results to previous time periods and report trends.
- Benchmarks: Compare results to known benchmarks (e.g. other training centers), and report comparisons.
- Thresholds: Determine the acceptable level of performance and report all areas that do not meet that level of performance.

References:

Kirkpatrick, D. L. & Kirkpatrick, J. D. (2006). *Evaluating Training Programs*: The four levels (3rd ed). San Francisco, CA: Berrett-Koehler Publishers, Inc.

Dillman, D. A. (2000). *Mail and Internet Surveys: The Tailored Design Method* (2nd ed.) New York, NY: John Wiley and Sons, Inc.

Appendices:

Level 1 Evaluations

1 Example of a paper-based level 1 survey (SMTC)

Level 2 Evaluations

2-A Example of a level 2 progress quiz (LDC)

2-B Example of a level 2 performance checklist

Level 3 Evaluations

3-A Level 3 Survey Template – Graduates (FC-51)

3-B Level 3 Survey Template – Supervisors (FC-51)

3-C Explanation of the level 3 sample table (LDC)

Appendix 1

Student: ________________ Instructor: ________________

Course: ________________ Lesson: ________________

The IRF is designed to collect student's input regarding instruction at SMTC. This data is used to assess instructor efficiency and effectiveness of training materials. If you identified a discrepancy, please provide a recommendation that may fix the problem. Please read each item carefully and use the following rating scale to indicate your response.

Rating scale:

1:strongly disagree 2:disagree 3:neutral 4:agree 5:strongly agree

PART 1: The Instructor

The instructor…	sd d n a sa
1. Utilized an appropriate attention gainer	1 2 3 4 5
2. Presented all enabling objectives to the class	1 2 3 4 5
3. Demonstrated knowledge about the topic	1 2 3 4 5
4. Utilized excellent communication skills	1 2 3 4 5
5. Encouraged student participation	1 2 3 4 5
6. Answered all questions from students	1 2 3 4 5
7. Provided examples and/or personal experiences about the topic	1 2 3 4 5
8. Was well prepared for the lesson	1 2 3 4 5

9. Please comment on the strengths of the instructor.

10. Please comment on the limitations of the instructor.

Rating scale:

1:strongly disagree 2:disagree 3:neutral 4:agree 5:strongly agree

PART 2: Training Materials

	sd d n a sa
1. The lesson outline was written in a clear and logical manner	1 2 3 4 5
2. The lesson outline facilitated learning	1 2 3 4 5
3. The presentation was clear and logical	1 2 3 4 5
4. The presentation enhanced learning	1 2 3 4 5
5. Training aids such as turn charts, white boards, films, models, etc were adequate for the lesson	1 2 3 4 5
6. Training aids enhanced learning	1 2 3 4 5
7. The training environment was adequate	1 2 3 4 5
8. The classroom set-up stimulated learning	1 2 3 4 5

9. Please comment on the strengths of the training materials.

10. Please comment on the limitations of the training materials.

Appendix 2-A

PROG 1

ROCI 1-07

Name ______________ ________

Platoon (circle one) Zulu 1 Zulu 2

1. Which of the following is not a security classification for a message?

   A. FOUO.

   B. SECRET.

   C. TOP SECRET

   D. CONFIDENTIAL

2. The speed of service objective for a FLASH (Z) message is ___.

   A. Less than 10 minutes / ASAP

   B. 6 hours

   C. 3 hours

   D. 1 hour

3. With respect to messages, PLA is the abbreviation for ______________.

   A. plain level acronym

   B. plain language address

   C. permanent language abbreviation

   D. peak level alarm

4. Operational Control (OPCON) is authoritative direction necessary to accomplish the mission.

   A. True

   B. False

5. What does MLC stand for in reference to CG Organization?

   A. Maritime Law Command

   B. Maritime Logistics Command

   C. Maintenance Legal Counsel

   D. Maintenance and Logistics Command

6. Which is in correct order in reference to the CG chain of command?

   A. Area, Sector, District, Station

   B. District, Sector, WMEC

   C. Area, District, Sector, Station

   D. District, Sector, Patrol Boat, ANT

7. The WHEC's hull color is _____.

   A. Black
   B. Grey
   C. Red
   D. White

8. The aircraft pictured above is a ____.

   A. HU-25A
   B. VC-11A
   C. HH-65A
   D. HC-130H

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Appendix 2-B

Example of a Level 2 Performance Checklist

Example: service Performance Checklist	Imagine training a new person to perform oil changes at a station. The "test" you develop would probably look like the following (in part):

Performance Checklist Example

Task	Yes No	Criteria/Standard:
Greet Customer		Friendly greeting with a smile?
		Reviewed oil change procedures?
		Asked preference for oil viscosity?
		Asked if filter changed in addition to oil?
1st check of oil level	Yes No	Removed dipstick, wiped clean and fully inserted back into tube for accurate reading?
		Removed dipstick a second time, accurately read?
		Showed dipstick reading to customer?
		Wiped clean before reinserting?
		Documented oil reading to within ½ qt on customer service sheet?
Drain Oil	Yes No	Placed funnel system in place to catch oil?
		Selected proper wrench for oil plug removal?
		Removed oil plug?
		Checked plug for metal filings?
Etc.		
		(continued)

Appendix 3-A

Level 3 Evaluation Graduate Survey

Course:
123456 (ABC "A" School)

Introduction:

To help improve the quality and delivery of training, please take a moment to complete this survey. The results are essential to evaluate training programs and ensure alignment with the needs of the Coast Guard. Please answer all of the questions and, if needed, include specific comments in the Comments section found later in the survey.

Job Tasks (Terminal Performance Objectives):

Please indicate whether you have completed each of the job tasks taught in the course. If you indicate that you have not completed a task, you will be asked in the following question to identify why not.

Have you...

Tied a bowline?
O Yes
O No

If not, please select why not from the following list:
O You have not had the opportunity to perform the task
O Your unit does not have the equipment that the graduate was trained on
O Your unit uses different procedures than the graduate was trained in
O You do not have the skills or knowledge to perform the task
O Someone other than you performs this task at your unit

Tied a half-hitch?
O Yes
O No

If not, please select why not from the following list:
O You have not had the opportunity to perform the task
O Your unit does not have the equipment that the graduate was trained on
O Your unit uses different procedures than the graduate was trained in
O You do not have the skills or knowledge to perform the task
O Someone other than you performs this task at your unit

Spliced a line?
O Yes
O No

If not, please select why not from the following list:

O You have not had the opportunity to perform the task
O Your unit does not have the equipment that the graduate was trained on
O Your unit uses different procedures than the graduate was trained in
O You do not have the skills or knowledge to perform the task
O Someone other than you performs this task at your unit

Enter additional survey questions as needed. Number all questions with the same numbers that are used for the corresponding Terminal Performance Objectives in the approved Curriculum Outline. Ensure all text is dark blue. Delete this comment.

Enter any comments you would like to make here.

____
____
____

Demographic Information:

Course Code.

(enter 6-digit TQC number in dark blue, preselect, hide this question, and delete this comment.) ___________________________________

Session.

(enter 4-digit TQC session number in dark blue, preselect, hide this question, and delete this comment. If you are surveying multiple sessions, enter the session numbers separated by a comma)

____

What is your current status?

O Active duty
O Reserve
O Auxiliary
O Civilian
O Other ___________________________________

What is your pay grade?

O E-2
O E-3
O E-4
O E-5
O E-6
O E-7
O E-8
O E-9
O W-2
O W-3
O W-4

O O-1
O O-2
O O-3
O O-4
O O-5
O O-6
O GS-4 to GS-6
O GS-7 to GS-11
O GS-12 to GS-13
O GS-14 and above
O WG

What is your rating (enlisted members only)?

O AET
O AMT
O AST
O BM
O DC
O EM
O ET
O FS
O GM
O HS
O IS
O IT
O IV
O MK
O MU
O MST
O OS
O PA
O PS
O SK
O YN
O Other ________________________________

What is your unit type?

O WAGB
O WHEC-378
O WMEC-270
O WMEC-210
O WLB-225
O WLM-175
O WTGB-140
O WPB-123
O WPB-110
O WPB-87
O Sector
O Group
O Small Boat Station

O Air Station
O MSU / MSD
O LORAN Station
O ISC
O ESU / ESD
O Headquarters
O Area
O District
O Training Center
O CG Academy
O LDC
O CG Finance Center
O CG Institute
O PSU
O MSST
O TACLET
O Other ________________________________

Thank you for completing this survey. Your answers will not be recorded until you select "submit" below.

Ensure you have competed all other desired items not found on the "questionnaire designer" page, such as "end page designer", "survey properties", etc. Delete this comment.

Appendix 3-B

Level 3 Evaluation Supervisor Survey

Course:
123456 (ABC "A" School)

Introduction:

To help improve the quality and delivery of training, please take a moment to complete this survey. The results are essential to evaluate training programs and ensure alignment with the needs of the Coast Guard. Please answer all of the questions and, if needed, include specific comments in the Comments section found later in the survey.

Job Tasks (Terminal Performance Objectives):

Please indicate whether the graduate has completed each of the job tasks taught in the course. If you indicate that the graduate has not completed a task, you will be asked in the following question to identify why not..

Has the graduate...

Tied a bowline?

- O Yes
- O No
- O Unable to assess

If not, please select why not from the following list:

- O You have not had the opportunity to perform the task
- O Your unit does not have the equipment that the graduate was trained on
- O Your unit uses different procedures than the graduate was trained in
- O You do not have the skills or knowledge to perform the task
- O Someone other than you performs this task at your unit

Tied a half-hitch?

- O Yes
- O No
- O Unable to assess

If not, please select why not from the following list:

- O You have not had the opportunity to perform the task
- O Your unit does not have the equipment that the graduate was trained on
- O Your unit uses different procedures than the graduate was trained in
- O You do not have the skills or knowledge to perform the task
- O Someone other than you performs this task at your unit

Spliced a line?
O Yes
O No
O Unable to assess

If not, please select why not from the following list:
O You have not had the opportunity to perform the task
O Your unit does not have the equipment that the graduate was trained on
O Your unit uses different procedures than the graduate was trained in
O You do not have the skills or knowledge to perform the task
O Someone other than you performs this task at your unit

Enter additional survey questions as needed. Number all questions with the same numbers that are used for the corresponding Terminal Performance Objectives in the approved Curriculum Outline. Ensure all text is dark blue. Delete this comment.

Enter any comments you would like to make here.
____
____
____

Demographic Information:

Course Code.
(click on "Course Code" located in the upper right panel; "course code" will expand. Click on the expansion row. Type the 6 digit course code in the Appearance Properties "Preselected" box located on the bottom right of the screen. Once you have done this click on "Course Code" again to ensure the box "Hide Entire Question" is checked.) ____

Session.
(click on "Session" located in the upper right panel; "Session" will expand. Click on the expansion row. Type the 4 digit session number in the Appearance Properties "Preselected" box located on the bottom right of the screen. Once you have done this click on "Session" again to ensure the box "Hide Entire Question" is checked.)

____

What is the your current status?
O Active duty
O Reserve
O Auxiliary
O Civilian
O Other _______________________________________

What is your pay grade?
O E-2
O E-3
O E-4

O E-5
O E-6
O E-7
O E-8
O E-9
O W-2
O W-3
O W-4
O O-1
O O-2
O O-3
O O-4
O O-5
O O-6
O GS-4 to GS-6
O GS-7 to GS-11
O GS-12 to GS-13
O GS-14 and above
O WG

What is your rating (enlisted members only)?
O AET
O AMT
O AST
O BM
O DC
O EM
O ET
O FS
O GM
O HS
O IS
O IT
O IV
O MK
O MU
O MST
O OS
O PA
O PS
O SK
O YN
O Other ________________________________

What is your unit type?
O WAGB
O WHEC-378
O WMEC-270
O WMEC-210

O WLB-225
O WLM-175
O WTGB-140
O WPB-123
O WPB-110
O WPB-87
O Sector
O Group
O Small Boat Station
O Air Station
O MSU / MSD
O LORAN Station
O ISC
O ESU / ESD
O Headquarters
O Area
O District
O Training Center
O CG Academy
O LDC
O CG Finance Center
O CG Institute
O PSU
O MSST
O TACLET
O Other ____

Thank you for completing this survey. Your answers will not be recorded until you select "submit" below.

Ensure you have competed all other desired items not found on the "questionnaire designer" page, such as "end page designer", "survey properties", etc. Delete this comment.

Appendix 3-C

Explanation of Level 3 Sampling Table

So what is an adequate sample size? Before we can answer this question we must provide a brief background on sampling theory.

There is always inherent error when sampling data. Unless we have a census of all possible people in a population (e.g., all Coast Guard members), we are trying to represent the population with our best estimate, which is a subset of the population called a sample (e.g., 100 Coast Guard members taken at random). With this sample comes a degree of uncertainly, or error, when we induce any result from this sample back to the population. In other words, how well does this sample represent the population? Generally speaking, to reduce this error, we need to collect more data. The closer the sample approximates its population, the more certain we are that the sample accurately represents its population. However, we can reach a point where the sample, when chosen randomly, closely represents the population. In this case, further data collection may not be worth the cost or time to improve precision. The decision to collect more data than prescribed is left to the discretion of each Training Center.

The Sample Estimation table utilized sampling theory statistics to allow us to estimate an adequate sample meeting a predefined degree of precision. The Table was calculated using 95% confidence in precision. This means assuming random samples of graduates were surveyed and the appropriate sample size was met, the percent of graduates indicating they perform a TPO would be similar to the population rate 95% of the time. It should be noted that the Table numbers were based off the amount of data needed for a triennial review divided by 3 (the project student load). Data were rounded to ease interpretation. The estimated sample size was inflated by 2% to account for underestimation of the sample for the higher range of the estimated through put population within each interval. Additionally, if further analyses are to be made between TPOs, such as comparing demographical differences among TPO results, one should consider the role of statistical power when collecting data.

References:
Cohen, J. (1969). *Statistical power analysis for the behavioral sciences*. New York: Academic Press.

Scheaffer, R.L., W. Mendenhall, and L. Ott. 1996. *Elementary Survey Sampling*, fifth edition. Duxbury Press, Boston, 464pp.