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ABSTRACT
                Designed for use by Coast Guard course writers,
curriculum developers, course coordinators, and instructors as a
decision-support system, this publication presents a model that
translates the Intraservices Procedures for Instructional Systems
Development curriculum design model into materials usable by
classroom teachers and students. Although intended for use in a
service school environment, the model is suitable for the
postsecondary level. Two types of guides for each course are
described: instructor's and student's. Sections found in both guides
that are discussed include title page, table of contents, foreword,
course scope, class schedule, course behavioral objectives,
instructor evaluation of the student, student evaluation of course
and instructor, assignment of class standing, list of qualifications
for advancement covered, list of required student references, and how
to use the guide. The description of the instructor's guide
additionally covers course time allocations: course pretest and
posttest: record of student competencies: list of required forms,
equipment, and student handouts and assignments: and lesson plans.
The description of the student's guide also includes lesson
assignments and handouts. Numerous examples are provided. A section
on writing instructions covers format, spacing, and lettering and
numbering. (YLB)

A MODEL FRAMEWORK

FOR

COURSE MATERIALS CONSTRUCTION

(SECOND EDITION)

By

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May 1981

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FOREWARD

Before we deal with the Model Framework for Course Materials Construction we must discuss the assumptions that two antecendents to actual materials construction have been completed. Those assumptions are that prior to application of the model presented herein users have; (1) conducted a task analysis and; (2) developed the curriculum outline addressed in the current Commandant Instruction 1550:8 (Management of Training Course Curricula and Resources).

The task analysis is the focus around which and the point of departure from which the Curriculum Outline is designed. It is a process conducted to identify behaviors people must manifest if they are to function successfully on a day to day basis in their jobs, go on to study more complex or advanced subjects, and so on. The behaviors obviously must be at identifiable levels of competence within specified academic of vocational fields. Within the Coast Guard structure then, a task analysis could perhaps be directed toward a specific rating and spcific rates within the rating. It, for example, might center around the expertise Petty Officer First Class and Chief Petty Officers of the Yeoman rating must demonstrate if they are to successfully complete their daily work assignments. In another example, a task analysis might be directed toward the business of reserve unit command.

Subjects like Reserve Unit Command are by nature, general. They involve not a single rank, rate or rating but rather a host of competencies which cross academic and vocational subject area boundaries. The process by which task analyses are conducted in these cases and their intended goals are identical to that of the former example; an identification of competencies.

Competencies, skills or behaviors identified as a result of the task analysis process become the focal points of course development. When completed, an analysis produces terminal behaviors students should manifest upon successful completion of formal courses developed around the area investigated during the task analysis. These competencies, skills and behaviors become what are called terminal objectives of the formal course.

Once the task analysis is complete, a curriculum outline is developed. The process includes several steps. The first is to group the terminal objectives and sequence them in logical order. The groups become terminal objectives around which units of instruction are developed. The sequence of order is the order of their presentation in a course. The next step is the design of enabling objectives.

Enabling objectives are derived from terminal objectives. They describe in measurable terms a learning experience in a unit of instruction. They represent competencies students must manifest if they have mastered the terminal objective or objectives to a minimum level. They are also manifestations of terminal objective behavior. In this regard, there may be a large set of behaviors reflecting mastery of a terminal objective and therefore a large number of enabling objectives. When considered in this vain, it is not always possible to consider all enabling objectives in one unit of instruction. The remainder of the course curriculum development revolves around the enabling objectives.

Additional parts of the outline at a minimum are; (1) curriculum outline cover sheet; (2) table of contents; (3) course mission; (4) course scope; (5) course time summary; (6) appendices. The appendices probably include but are not limited to a list of required texts, publications and other references; a list of student

handouts; a list of student assignments; a list of training aids, devices and equipment; an indication of facility space requirements for successful course conduct. Additional information and a model curriculum outline are provided in the Commandant Instruction cited above. The relationship between numbering orders and sequences in a Curriculum Outline and those used in an Instructor's guide and its companion Student's guide is presented in Section III, Writing Instructions.

I. OVERVIEW

The model presented in the following pages was developed to provide guidance for those who must upgrade, update, otherwise modify or draft course materials in the original. It is intended to be used by Coast Guard course writers, curriculum developers, course coordinators and instructors as a decision support system. The framework provides an overview of materials, essential course areas and instructor and student oriented topics cogent to class-to-class and day-to-day course conduct. Course materials developed to fit this framework provide a coherent and logical system easily followed by instructors even though they may not have taught a specific course for some time. Such construction cuts substantially the time instructors must invest in course mechanics prior to teaching a course.

The model is intended to be used as an extension of the Interservices Procedures for Instructional Systems Development (ISD) curriculum design model, translating that model into materials useable by classroom teachers and students (Chief, Naval Education and Training, 1975, 1978). Although it is intended for use in a service school environment the model has been field tested extensively, with excellent results, in post secondary educational environs. When field tested, section (15), List of Qualifications for

Advancement Covered was omitted because it lacked relevance.

A. <u>System Construction</u>. The system, whether we discuss introductory or advanced courses, consists of companion volumes; an instructor's guide and a student's guide. Each is put together before a course begins and each is bound whenever possible.

B. <u>System Integration</u>. The system is integrated two ways - horizontally and vertically.

1. <u>Horizontal Integration</u>. There are two guides for each course regardless of whether the course is at the beginning or the advanced level. Much of the material included in the Instructor's Guide is also included without alteration in the Student's Guide.

2. <u>Vertical Integration</u>. Vertical integration exists only in cases where there are introductory and advanced courses dealing with the same subject. In this case students who enroll in the advanced course are assumed to be competent (at the minimum level expected of students successfully completing the basic course) in subjects covered in the basic course. Whilelsome time at the advanced level may be devoted to reviewing basic subjects, the advanced course is not intended to be a regurgatation of basic material presented at a later date. The subjects of review then are related directly to those presented earlier.

II. GUIDES

A. <u>Introduction</u>. As mentioned above, there are two types of guides for,

each course. An Instructor's Guide and a Student's Guide. If the materials are to be used as intended and a course taught in the same manner, both types of guides must be used whenever a course is offered.

B. Types.

1. Instructor's.

a. Introduction. An Instructor's Guide is a series of guides that collectively outline the testing, teaching and learning activities to be accomplished in a course of instruction. The document serves as the instructor's primary teaching aid.

All information related to the activities required for student achievement at a particular level of instruction are outlined in the guide. This includes such things as utilization of teaching aids, instructional materials, required equipment, teaching techniques and methods and exercises that will collectively enhance the learning process.

b. Sections.

(1) Title Page. The title page is the first page of the guide. It includes four types of information; (1) the name of the guide, for example, "Instructor's Guide for the Instructor Training Course"; the author's, editor's or compiler's name; (2) the name of the author's institution; (3) the institution's address and; (4) the date the guide was prepared. An example of such a page follows.

(a) Example.

INSTRUCTOR'S GUIDE FOR THE
INSTRUCTOR TRAINING
COURSE

BY.

Alexander Hamilton

Training Division

United States Coast Guard Reserve Training Center

Yorktown, Virginia   23690

January 1981

(2) <u>Table of Contents</u>. The Table of Contents follows the title page. It lists by page, all of the major subject matter divisions within the guide. The table in this document may be used as a guide.

(3) <u>Forward</u>. The forward contains an overview of the course. It includes such information as course length and type of learning system. For example, if the course is of contemporary vintage and intended for use within the Coast Guard Service Schools System, it probably is a mastery learning or competency based type of course. In short, any information which helps provide instructors with a well rounded picture of the course is included here.

(4) <u>Course Scope</u>. This section identifies the subject areas covered during conduct of the course. These areas are often the same as those listed in the <u>Course Time Allocations</u> section of the guide.

(5) <u>General References</u>. General references are all of the references from whence course materials, background information and the like were drawn. They are listed in this section first by subsections. One subsection includes Coast Guard numbered publications, directives and instructions. The other includes text books which are listed alphabetically by the author's last name. An example of a text listing is found in the <u>References Section</u> at the end of this document. An outline of this section is shown below.

(a) Example.

General References

I. Coast Guard Publications

    A. Numbered Documents (eg. CG-000)

    B. Commandants Instructions

II. Text Books

    (6) Class Schedule. The class schedule breaks the entire course down by days of the week and then hours. It identifies what subject area will be covered by instructor and students during each hour of each day of a course. An example from the Yeoman Advanced Course is shown below.

    (a) Example.

YEOMAN ADVANCED CLASS SCHEDULE

WEEK ONE	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
0800 0850	COURSE INTRODUCTION	OFFICER EDUCATION PROGRAMS	FORMS AND DIRECTIVES MANAGEMENT	OFFICE MANAGEMEN CONCEPTS TECHNIQUE
0900 0950	COURSE PRETEST	OFFICER EDUCATION PROGRAMS	FORMS AND DIRECTIVES MANAGEMENT	OFFICE MANAGEMEN CONCEPTS & TECHNIQ
1000 1050	INTRODUCTION TO CLASSIFIED MATERIAL	INTRODUCTION TO CLASSIFIED CORRESPONDENCE	PROCUREMENT OF SUPPLYS & EQUIPMENT	OFFICE MANAGEMEN CONCEPTS
1100 1150	INTRODUCTION TO CLASSIFIED MATERIAL	INTRODUCTION TO CLASSIFIED CORRESPONDENCE	PROCUREMENT OF SUPPLIES & EQUIPMENT	OFFICE MANAGEMEN CONCEPTS & TECHNIQU
			LUNCH	
1300 1350	BUSINESS AND SOCIAL CORRESPONDENCE	INTRODUCTION TO SPECIAL & GENERAL COURSES	BASIC LEADERSHIP CONCEPTS	USING PMIS & JUMPS
1400 1450	OFFICER PERSONNEL ADMINISTRATION	INTRODUCTION TO SPECIAL & GENERAL COURTS	BASIC LEADERSHIP CONCEPTS	USING PMIS & JUMPS
1500 1550	BENEFITS	INTRODUCTION TO SPECIAL & GENERAL COURTS	BASIC LEADERSHIP CONCEPTS	USING PMIS & JUMPS
1600 1650	BENEFITS	INTRODUCTION TO SPECIAL & GENERAL	BASIC LEADERSHIP CONCEPTS	INTRODUC TO THE TE LEARNING

YEOMAN ADVANCED CLASS SCHEDULE

WEEK TWO	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800 0850	DRAFTING 20 MINUTE LESSON PLAN	20 MINUTE STUDENT PRESENTATIONS	DICTATION/ TRANSCRIPTION	PRACTICAL EXERCISES	COURSE CRITIQUE GRADUATION PAY
0900 0950	DRAFTING 20 MINUTE LESSON PLAN	20 MINUTE STUDENT PRESENTATIONS	DICTATION/ TRANSCRIPTION	PRACTICAL EXERCISES	COURSE CRITIQUE GRADUATION PAY
1000 1050	DICTATION/ TRANSCRIPTION	20 MINUTE STUDENT PRESENTATIONS	REVIEW OF YN BASIC SUBJECTS	PRACTICAL EXERCISES	COURSE CRITIQUE GRADUATION PAY
1100 1150	DICTATION/ TRANSCRIPTION	20 MINUTE STUDENT PRESENTATIONS	REVIEW OF YN BASIC SUBJECTS	PRACTICAL EXERCISES	COURSE CRITIQUE GRADUATION PAY

LUNCH

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	
1300 1350	CLERICAL TRAINING PROGRAMS	20 MINUTE STUDENT PRESENTATIONS	DICTATION/ TRANSCRIPTION	PRACTICAL EXERCISES	
1400 1450	CLERICAL TRAINING PROGRAMS	20 MINUTE STUDENT PRESENTATIONS	DICTATION/ TRANSCRIPTION	PRACTICAL EXERCISES	
1500 1550	DICTATION/ TRANSCRIPTION	20 MINUTE STUDENT PRESENTATIONS	PRACTICAL EXERCISES	COURSE POST TEST	
1600 1650	DICTATION/ TRANSCRIPTION	20 MINUTE STUDENT PRESENTATIONS	PRACTICAL EXERCISES	POST TEST REVIEW	

(7) <u>Course Time Allocations</u>. Each subject covered in the course is listed in this section as are the times in minutes devoted to each subject.

(a) <u>Example</u>.

SUBJECT   TIME(minutes)

Dictation and Transcription   400

Although 400 minutes of the total course are devoted to the subject of dictation and transcription the time may be spread over several days. This section, therefore, is somewhat different from the class schedule section.

(8) <u>Course Behavioral Objectives</u>. This is a list of behaviors students should be able to demonstrate as a result of having taken the course. They identify terminal behaviors. They are the items drafted as part of the task analysis discussed in the <u>Forward</u>. The objectives should be listed in this section by lesson or unit number and then by the sequential order in which they are covered in a lesson. An example is shown below (Also see the discussion about numbering under III <u>Writing Instructions</u>).

(a) <u>Example</u>.

3.1 CREATE instructional student centered objectives

3.1.1 DEFINE the three parts (performance, conditions, criteria) of an instructional objective.

3.1.1 WRITE a complete instructional objective to

cover a specific situation.

(9) Course Pretest. The course pretest is an instrument administered at the beginning of the course to ascertain the entering behaviors (competency levels) of students, that is, how competent they are with the subjects covered in the course. Pretests are necessarily designed around the course behavioral objectives. Pretest results are used not only as diagnostic devises, but as a method of determining if, when and how instruction within a course should be altered. If students demonstrate a high level of facility with certain subjects, then the instructional level in those areas should be high. The converse is of course true when students demonstrate little or no competence in an area.

(10) Course Post Test. The course post test is an instrument administered at the end of the course. It is much like the pretest in the sense that it is designed to determine students' mastery of the course objectives. It measures situations similar to those measured in the pretest. The results are also often compared with pretest results to determine the amount of learning gain that has taken place within a student or the entire class. The results are not used as a method of evaluating student achievement for the purpose of course grading.

(11) Instructor Evaluation of the Student. This section includes information describing the methods by which student success is evaluated, i.e. how student competency with the objectives is actually determined.

In competency based mastery learning types of courses, competency is very often determined by success in completing individual lesson related activities. Levels reflecting a demonstration of minimum competency with the objectives are reflected by the criteria set forth for each objective. These criteria are included in the Behavioral Objectives sections of the lesson plans. They are listed under the subheading, criteria (see the sample lesson plan below). An alternate method is to include them as part of the objective itself.

(12) <u>Student Evaluation of the Course and Instructor</u>.
Students are given the opportunity to evaluate both the course and the instructor. The evaluation usually takes place at the end of the course. It usually occurs as part of the course critique. This section includes two items: (1) a sample of the course evaluation forms and; (2) other information both necessary and or useful in completing the evaluation. An example of this section is provided below.

(a) <u>Example</u>.

COURSE EVALUATION FORM

COURSE NO._____ TITLE:_____ DATE:_____

STRONGLY AGREE(SA),AGREE(A),UNDECIDED(U), DISAGREE(D),STRONGLY DISAGREE(SD)

SECTION I - COURSE CONTENT   (X WHERE APPROPRIATE)

	SA	A	U	D	SD
1. The learning objectives(goals) for each class were made known to the students. COMMENTS:					
2. The classes met their learning objectives (goals). COMMENTS:					
3. The objectives(goals) will be useful to me in future job assignments. COMMENTS:					
4. All requirements were made clear by the instructors. COMMENTS:					
5. The assignments helped me meet the objectives (goals) for each class. COMMENTS:					
6. Students were made aware of any preparation needed for class. COMMENTS:					
7. Time spent in class was valuable and instructive. COMMENTS:					
8. Important concepts were clearly explained. COMMENTS:					
9. Each class within the course was necessary and could not have been excluded from the outline. COMMENTS:					

SECTION - 2 - INSTRUCTORS	SA	A	U	D	SD
1. The instructors had a clear command of the subject matter. COMMENTS:					
2. The instructors were enthusiastic about their subject matter. COMMENTS:					
3. The instructors showed evidence of careful preparation for class sessions. COMMENTS:					
4. The instructors showed genuine respect for the students. COMMENTS:					
5. The instructors encouraged student participation. COMMENTS:					
6. Students were encouraged to seek assistance from the instructors. COMMENTS:					
7. The instructors encouraged viewpoints that differed from their own. COMMENTS:					
8. Individual needs of the students were recognized by the instructors and assistance was provided in meeting those needs. COMMENTS:					
9. The instructors conducted the class with appropriate dignity. COMMENTS:					

SECTION - 3 - EVALUATION	SA	A	U	D	SD
1. A requirements and assignments were relevant to the course. COMMENTS:					
2. All assignments were clearly worded. COMMENTS:					
3. Assignments were carefully and conscientiously marked and evaluated by the instructors. COMMENTS:					
4. Assignments and test were returned within a reasonable length of time. COMMENTS:					
SECTION - 4 - GENERAL					
1. I have benefited from this course. COMMENTS:					
2. I feel that I will be able to use the material covered in this course in my current assignments. COMMENTS:					

GENERAL COMMENTS: Please include your comments regarding this evaluation
form. Was it clear and easy to understand? Was it too long
or did it fail to cover other important areas?

(13) <u>Assignment of Class Standing</u>. If courses are competency and activity based (competency is determined based upon success in completing activities at the criterion level), it is possible to have many students who excel or perform at high levels. Coast Guard administrators, however, require an assignment of class standing. This section outlines for both instructors and students how that assignment is to be made. One suggested method is to take the total number of course objectives (assuming they are all of equal importance), divide that number into 100 and then multiply the quotient by the number of objectives mastered by each student.

(14) <u>Record of Student Competencies</u>. The record is an accounting system. The simplest method is to use an XY coordinate graph. The students' names may be listed on one axis and the objectives on the other. If the graph is divided into blocks, once an objective is mastered, a "P" may be placed in the respective box. A failure to master an objective is indicated by an empty box (See the following example).

(a) <u>Example</u>

<u>RECORD OF STUDENT COMPLETENCIES</u>

UNIT/LESSON	1.0		2.0	3.0			
OBJECTIVE	1.1	1.2	2.1	3.1	3.2	3.3	
NAME							
JONES	P		P	P		P	
SMITH	P	P		P	P	P	

(15) <u>List of Qualifications for Advancement Covered</u>. This is a list of qualifications (if applicable to the course) covered during course conduct. They are taken from Commandant Instruction M1414.8, <u>Enlisted Qualifications Manual</u> and from CG-3303C, "Record of Practical Factors." This list is related to the course behavioral objectives.

(16) <u>List of Required Student References</u>. This is a list of all references which students must use during the course. The list is a compilation of all references listed in the student references sections of the various lesson plans. The list does not include student handouts. Finally, the section is set up in the same manner as the <u>General References Section</u>.

(17) <u>List of Required Forms</u>. Some courses require that students develop expertise completing certain types of forms, looking up information necessary to complete the forms and so on. Those forms are listed here by form number, title, and lesson.

(18) <u>List of Required Equipment</u>. This is a simple list of all equipment used during the course by both students and instructor.

(19) <u>List of Student Handouts</u>. Student handouts are listed in this section by lesson and then handout number within lessons (eg. 14-1, 14-2, 14-3).

(20) <u>List of Student Assignments</u>. Student assignments are listed here by lesson. (See <u>Writing Instructions</u> for numbering sequence).

(21) <u>How to Use the Instructor's Guide</u>. This section contains a detailed description of how the guide is to be used.

(22) <u>Lesson Plans; Instructor Background and; Student Handouts</u>. The guide includes all lesson plans to be used with the course. A section titled, "Instructor Background" is included with each lesson plan. This section is included to provide instructors with an overview of the lesson material, a review of subject presented in the lesson or both. In most cases it is a quick refresher, not intended to provide indepth coverage of a subject. Instructors must return to the literature for indepth treatments. Student handouts used as part of a lesson are included with the lesson plan (as are lesson assignment sheets and instructor correction guides). They are intended for use as quick ready references by instructors. Student handouts and assignments are also included in the course Student's Guide. A sample lesson plan is provided below.

(a) SAMPLE LESSON PLAN

<u>TITLE</u>:	Every lesson plan begins with a definite title. The title reflects the subject covered in the lesson.
<u>LESSON OR UNIT</u>	This number is the position of the lesson or unit within a
<u>NUMBER</u>:	series of lessons or units,(there may be several lessons in a unit).
<u>DATE PREPARED</u>:	This is the date when a lecture, lesson or training session was prepared.

TIME: This-is the time required for successful conduct of
                         the lesson, (e.g. 50 minutes, 100 minutes etc.).

BEHAVIORAL   Objectives are a series of statements reflecting the
OBJECTIVES: behaviors (or performances) students should be able to
                         demonstrate as a result of attending a lecture, lesson
                         or training session and/or completing its associated
                         activities. These objectives are the terminal and
                         enabling objectives listed in the curriculum outline.
                         Their numbers are the same as they are in the
                         curriculum outline and they are listed here in the
                         order they are presented in the lesson.

I. CONDITIONS: These are the conditions under which students should
                         be able to demonstrate competency with the stated
                         objectives of a lesson. If, for example, as a result
                         of participation in a training session, students
                         should be able to demonstrate an ability to do
                         pushups, the condition might be that the pushups be
                         done without the use of mechanical aids. As a result
                         of participation then, students should be able to do
                         pushups without the use of mechanical aids.

II. CRITERIA: A criterion is a standard of success. It identifies
                         the minimum level of performance students must
                         demonstrate before they are considered competent (or
                         have mastered) with a specific objective (for example
                         80% of 30 pushups).

REFERENCES: This section includes all references (both student and

instructor) necessary for successful completion of a

lesson.

I. INSTRUCTOR: These are references used by instructors as they

develop a lesson. They should include specific text

sections and pages. This listing allows instructors.

to return readily to source material even though they

may wish not to use the source material directly in

class.

II. STUDENT: These are references required by students for

successful completion of the lesson and its associated

activities. Normally one copy of each reference

listed in this section is required for each student in

the class.

MATERIALS/EQUIPMENT: All materials required for successful presentation of

a lesson should be listed here.

I. INSTRUCTOR: All materials required by an instructor are listed

here. The list includes such items as chalk,

chalkboard, overhead projectors, list of overheads,

film titles and so on.

II. STUDENT: All materials required by students are listed here.

Class handouts, paper, other clerical supplies, forms

and the like are included in this list.

INTRODUCTION: The introduction to a lesson is used by instructors to provide students with an overview (advanced organization) of the lesson, the rationale for pursuing the subject at hand and the behaviors (taken from the objectives section) students should be able to demonstrate as a result of participation.

PRESENTATION: This is a step-by-step outline of a lecture, activity or training session as the session is presented to students. It should follow the order in which the behavioral objectives are listed above and serve as a guideline for instructors.

APPLICATION: Here, instructors list ways in which students apply, to real world situations, expertise gained from the session. This section can be used as an extention of the PRESENTATION session in the sense that additional assignments may be listed here.

SUMMARY: A brief summarization of the lesson is provided here. This is a look back over the entire lesson. It is related to the INTRODUCTION and PROCEDURES sections.

EVALUATION: Here, instructors list methods by which students will be evaluated to determine whether, in fact, they have attained the minimum competency levels set forth in the BEHAVIORAL OBJECTIVES section of the lesson plan.

HOMEWORK: Activities the instructor wishes students to conduct

after class are listed here.

    2. Student's.

        a. Introduction. The Student's Guide includes a series of
instruction sheets which collectively provide students with supplementary
materials (in addition to manuals and text books) needed for successful
completion of a particular course. Prepared in conjunction with the course
Instructor's Guide the Student's Guide includes instruction sheets which list
reading and other assignments such as homework, problem analysis exercises,
diagram sheets and other special units of additional or amplifying
information. The Student's Guide is assembled in one binder. All of the
material in the Student's Guide is also in the Instructor's Guide, but all of
the information in the Instructor's Guide is not in the Student's Guide.

        b. Sections.

        (1) Title Page. This page is set up in the same format as
the title page of the Instructor's Guide. The only difference between this
page and the same page of the Instructor's Guide is the title.

        (2) Table of Contents. The Table of Contents follows the
title page. It lists, by page number, all of the major divisions within the
guide.

        (3) Forward. This section is identical to the Forward
section in the Instructor's Guide.

(4) <u>Course Scope</u>. This section is identical to the course scope section in the Instructor's Guide. It provides students with an idea of sequence in which course subjects will be presented and the amount of time they will spend on each subject.

(5) <u>Class Schedule</u>. The schedule is the same as the one included in the Instructor's Guide.

(6) <u>Course Behavior Objectives</u>. These are the same objectives as are listed in the Instructor's Guide. They inform students of the areas in which they are expected to demonstrate competence upon completion of the course.

(7) <u>Instructor Evaluation of the Student</u>. The information here is the same as that in the companion section of the Instructor's Guide. It identifies, for students, exactly how their performance in a course will be evaluated.

(8) <u>Student Evaluation of the Course and Instructor</u>. This section is the same as its companion in the Instructor's Guide.

(9) <u>Assignment of Class Standing</u>. Information in this section is intended to describe the method by which students' class standings will be determined.

(10) <u>List of Qualifications Covered</u>. The information in this section outlines those items from Commandant Instruction M1414.8 (old CG-311), <u>Enlisted Qualifications Manual</u> and CG-3303C "Record of Practical Factors"

which are covered by the course.

(11) List of Required Student References. This is a list of all references students must use in order to complete the course as intended by the curriculum developer.

(12) How to Use the Student Guide. This is a detailed set of instructions indicating exactly how students are to use the guide, how it is integrated with the Instructor's Guide and so on.

(13) Lesson Assignments and Handouts. This section includes, by lesson number, all of the assignments and student handouts relevant to course content.

III. WRITING INSTRUCTIONS

A. Format. The format for both Instructor's and Student's Guides are the same as that shown in the Table of Contents of this document, beginning in each case with the title page. Sections are sequenced as shown there. Each section begins with the title in capital letters and generally speaking, each section begins on a new page.

B. Type Spacing. Type should, wherever possible, be single spaced in the Student Guide. Except the lesson plans and Record of Student Competencies, the Instructor's Guide should be double spaced. With regard to lesson plans, verbage written in the various sections should be single spaced while two spaces are left between sections. See the example provided below.

1. Example.

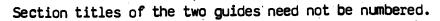INTRODUCTION: _____

_____

Single spaced verbage Included here.

Double space and then start next section.

PROCEDURE: _____

C. Lettering and Numbering. Pages are numbered sequentially from 1 beginning with the Forward. The Table of Contents is numbered with small Roman numerals. Page numbers are placed in the upper right corner of each page. Lettering and numbering within sections should follow the outline format shown below (with the exceptions described below):

I.

    A.

1.

      a.

        (1)

          (a)

            i

Section titles of the two guides need not be numbered.

1. <u>Numbering In The Curriculum Outline</u>. Numbering in the <u>Curriculum Outline</u> starts with whole numbers. Whole numbers are reserved for use as unit or lesson numbers. Each successive unit number is one greater than the last and the number order follows the sequence in which the units or lessons are presented later in the Instructor's Guide, Student's Guide and subsequently in the course. Uni. 1.0 then is the first unit of instruction, Unit 2.0 the second and so on.

Terminal objectives take on the unit number as follows. Terminal objective one in Unit 1.0 is numbered 1.1. The objectives are listed sequentually in the order they will be presented later. Objective 1.2 is the second of two terminal objectives to be considered in Unit 1.0. In addition, objective 1.2 is the second to be considered in the instructional sequence of

Unit 1.0.

Enabling objectives are numbered as subsets of their respective terminal objectives. If terminal objective 1.2 has five enabling objectives, they are numbered 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5.

An example of this numbering scheme is provided below.

a. <u>Example</u>: The example with some modification was drawn from the Instructor Training course offered at U. S. Coast Guard Training Center, Governors Island, New York.

<u>UNIT</u> 16.0 <u>Learning Problems Terminal Performance Skill and Knowledge</u>
<u>Objectives</u>: As a result of completing this unit of instruction and its associated activities, students should be able to:

16.1 IMPLEMENT instructional techniques and methodologies which take into account learning problems encountered in the educational environment. The techniques and methodologies should be those outlined in; (1) Biehler, <u>Psychology Applied to Teaching</u> (2nd ed.); (2) Broadwell, <u>The Supervisor and on</u> <u>the Job Training</u>; (3) Gray, <u>The Teachers Survival Guide</u>, <u>Effective Training; A</u> <u>Guide For Instructors</u>; (4) <u>Instructor Training</u> (NAVPERS 92050); <u>Manual for</u> <u>Navy Instructors</u> (NAVPERS 16103-C).

<u>Enabling Objectives:</u>
16.1.1 DESCRIBF a number of common learning problems. Problem symptoms and possible causes should be included in the description. At a minimum, the description should be in accordance with references 1 and 2 above and Broadwell, <u>The Supervisor as an Instructor</u>.

16.1.2 List learning problems which may exist as a result of student's individual differences. The list should reflect those included in; (1) Gray, The Teacher's Survival Guide, ICS and; (2) Otto and Glasser, The Management of Training.

16.1.3 DESCRIBE learning problems which arise from factors other than student's individual differences. The description should include those differences cited in; (1) Otto and Glasser, Management of training; (2) Instructor Training (NAVPERS 92050) and; (3) Manual for Navy Instructors (NAVPERS 16103-C).

16.1.4 DESCRIBE teaching methods and techniques which compensate for and attempt to alleviate learning difficulties. The descrip ̣n should reflect the writings of; (1) Biehler, Psychology Applied to Teaching and; (2) Broadwell, The Supervisor and On The Job Training.

16.1.5 DEVELOP (from a curriculum outline) a strategy which modifies instruction to compensate for both slow and fast learners. The scheme should reflect the strategy set forth in Biehler, Psychology Applied to Teaching

16.1.6 EXPLAIN how improvement of study habits can help to minimize the learning problems cited in (1) NAVPERS 16103-C, Manual for navy Instructors and; (2) Boyle, How to Study.

16.1.7 DESCRIBE three classroom activities a student should use to improve his or her leaṛning ability. The description should reflect those activities outlined in The Manual for Navy Instructors (NAVPERS 16103-C).

As a final comment, notice that the enabling objectives listed here include entries which are included later in the <u>Conditions</u> subsection of the <u>Behavioral Objectives</u> section in the lesson plan (see the Sample Lesson Plan above).

2. <u>Numbering in the Instructor's and Student's Guides</u>

a. <u>Instructor's Guide</u>. The numbering sequence used for unit or lesson numbers and objective numbers in the Curriculum Guide is used identically in several places in the Instructor's Guide; (1) Pretest; (2) Post-Test; (3)Course Beharioral Objectives; (4) Record of Student Competencies; (5) List of Student Handouts; (6) List of Student Handouts; (7) Lesson Plans.

(1) <u>Pretest</u>. Pretest items carry subset numbers of the enabling objective numbers they are intended to measure. If more than one pretest item deals with the same objective, the numbering is sequential (see the example provided below).

(a) Example. Suppose two questions have been included in the pretest to measure student competence with enabling objective 16.1.1. The first item is numbered 16.1.1.1 and the second 16.1.1.2

(2) <u>Post test</u>. The numbering of post test items is identical to that of pretest items.

(3) <u>Course Behavioral Objectives</u>. Numbering in this section

of the guide is identical to the numbering sequence for the objectives as they appear in the Curriculum Outline.

(4) <u>Record of Student Competencies</u>. Enabling Objective numbers are used here as part of the course competence accounting system (see section 14 of the Instructor's Guide above).

(5) <u>List of Student Handouts</u>. The handouts are numbered to reflect first the unit to which they belong and then based on the number of handouts associated with the unit. If unit 16 has two student handouts they are numbered student Handout 16-1 and Student Handout 16-2. Dashes are used to avoid confusion with the objective numbers.

(6) <u>List of Student Assignments</u>. Assignments are numbered such that they reflect the Units or Lessons to which they belong. The assignment for Unit 5 is numbered Assignment 5.0

(7) <u>Lesson Plan</u>. Numbering within the various sections of the lesson plans is consistant with discussion provided for sections of the <u>Instructor's Guide</u>

b. <u>Student's Guide</u>. Numbering within the <u>Student's Guide</u> is identical to that used in the <u>Instructor's Guide</u>.

REFERENCES

Chief, Naval Education and Training Interservice Procedures for Instructional Systems Development (NAVEDTRA 106A). Naval Air Station, Pensacola, Florida, Chief of Naval Education and Training, 1975.

Chief, Naval Educational and Training Instructional Systems Development (NAVEDTRA 110). Naval Air Station, Pensacola, Florida: Chief of Naval Education and Training, 1978.

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