

# FIELD PAPERS

## SOMALIA

### A Primary Teacher Inservice Program Guide: How to Write a Module

December 1986

## IEES

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Efficiency of  
Educational  
Systems

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The Florida State University  
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USA  
(904) 644-5442

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## HOW TO WRITE A MODULE

This module will help you remember the steps to follow when writing instructional materials. We have done each of the things mentioned in this module during our workshop. As you read the pages, you will learn about module writing. Later, when you develop materials for the inservice training curriculum you will follow these procedures. You will refer to this booklet frequently. Therefore, even though there may be a place to write answers in these pages, you should use another sheet of paper when you work problems.

### Module Writing

This first step in writing instruction is to identify the topics of instruction. We have begun this for the inservice curriculum. How did we do this? What sort of analysis of teacher behaviors did we make? That's right, we did a task analysis.

And what type of analysis did we perform on the pre-service curriculum topics? We performed a content analysis. We combined the results of both analyses, and we listed a lot of ideas on wall charts.

What did we do next? We began to look for similarities among the items. We created major categories with small points under each large category. You have all written outlines before. This process is the same. Our list is shown in Appendix C. This list is a good beginning, but we need to look further. I will tell you more about this later.

---

#### REMEMBER:

Use task analysis and content analysis to identify the topics of instruction.

---

After our list of content was written, we placed this information on a chart to help us better understand it. We placed the major topics in groups. This is shown in Appendix A. Compare the chart and the material in Appendix C. All but one or two of the major headings in our outline is shown on the chart. (Remember that we combined one or two topics at a later time.) Check these lists carefully to see the location of the content topics on the chart.

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PAUSE  
-----

The next step is to look closely at each of the major categories, such as lesson planning or communication. We must decide what should be taught about each category. We already have some information written down under major headings in our content list. Do we need more? For some categories we may have enough information. But for others, you will need to do some hunting. We do not have the time, money, or desire to write everything, so you will have to choose some information while leaving the rest.

Where will the extra information come from? Well, we each know some things already. We know it from our experiences as teachers. But we will have to do some research in order to identify other important ideas.

You can use materials that you have produced, too. These can be good sources of information. Can you think of two that might be helpful? You might look at the Teacher Training Manual and the Content Matrices Report.

In addition, the Institute of Inservice Teacher Training has recently produced some very good modules which should be used for referenced purposes. Appendix D gives a list of these.

Also, textbooks and interviews with colleagues can be helpful. But don't simply copy information. Analyze it and think if it is important before using it. The boxes below show sources of information that you can use.

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Task Analysis	Content Analysis	Experiences of the developer
---------------	------------------	------------------------------

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Library Research	CDC Materials	Interviews with Experts
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As you read and search for important information, you will gradually develop a list of ideas that fit together into categories--just like we did in our outline (Appendix C). Add your ideas to those we have already collected. At some point, you will stop collecting information. You cannot continue forever. Remember to include only information that is really important.

Now, it is time for a little practice. Look at the following sample of ideas. Group them according to similarity. You will have two major categories and some subordinate points for each.

---

PRACTICE:

1. Verbal communication
  2. Eye contact
  3. Loudness of voice
  4. Non-verbal communication
  5. Clarity of voice
  6. Standing beside each student
  7. Movements about the room
  8. Use of cues to get attention
  9. Proper use of language
- 

-----  
PAUSE  
-----

Did you group them? If not, do so now. When you finish, I believe you will find that verbal communication and non-verbal communication are the two major headings. The ideas which fall under verbal communication include the points numbered 3, 5, and 9. The others come under non-verbal communication. If you agree, then you are on the right track. If not, you may still be right. There are usually several ways to categorize various items. The list that I suggest would look like this:

---

EXAMPLE:

- Verbal communication  
Loudness of voice  
Clarity of voice  
Proper use of voice
- Non-verbal communication  
Eye contact  
Movements about the room  
Use of cues to get attention  
Standing beside each student
- 

All right. Now you have finished collecting notes about the important content that the students will learn. What is likely to be the next step? We are ready to make performance objectives from the content topics. After arranging and categorizing the important topics, you will write performance objectives for the trainee.

These first objectives that you write will be tentative. They will probably change over time as your thinking changes and as you try your materials with others. That is fine. Remember, as the wise man Mohamad said, "The only thing that is sure in this world is that nothing is for sure."

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REMEMBER:

Create performance objectives for the material in the content list.

---

Now, how about a little more practice? First, look at the categories that you arranged earlier.

---

EXAMPLE:

Verbal communication  
Loudness of voice  
Clarity of voice  
Proper use of voice

Non-verbal communication  
Eye contact  
Movements about the room  
Use of cues to get attention  
Standing beside each student

---

With this listing of important ideas in hand, you can construct performance objectives. Some objectives, written for the above content might look like this:

---

EXAMPLE:

Explain the two different types of communication.  
Discuss the proper use of voice.  
Recognize proper use of voice.  
Demonstrate proper use of voice.

---

These are only examples. There are many other objectives that could be written. The important thing for you to see is that the objectives come out of the content outline, and that they proceed from simple activities to more complex ones.

---

REMEMBER:

Performance objectives grow out of the content list, and they proceed from simple to complex activities.

---

Explain and discuss suggest simple activities, while recognize and demonstrate require more difficult processes. Usually, the last objective in a list will require the learner to do something. All the previous objectives prepare the learner to perform this complex behavior. The last objective in a list is often called the terminal objective and the others are called enabling objectives.

Now, look at the following examples. Let's assume that they were written for a person who knows absolutely nothing about a computer.

---

EXAMPLE:

Type a letter using a computer.  
Explain the steps for proper use of the computer.

---

Are these two objectives in a proper order for our beginner? No, of course not. How can you expect someone who knows nothing about a computer to be able to use a computer? The objectives should be turned around, and probably, other simpler objectives should be inserted before we actually ask the person to type a letter. Like this:

---

EXAMPLE:

Explain the steps for proper operation.  
Observe an experienced person perform steps.  
Practice performance of each step.  
Demonstrate each step.  
Practice typing letter.  
Produce letter.

---

Now, you try it. Arrange the following objectives in a proper order. Remember to move from simple to complex. You should rewrite the objectives on a piece of paper, then write the number "1" next to the objective which should come first; put a number "2" beside the second objective, and so on. Place the simplest first, and the most difficult, last.

---

PRACTICE:

- \_\_\_\_\_ Rewrite poor objectives.
  - \_\_\_\_\_ List the parts of an objective.
  - \_\_\_\_\_ Write objectives in three domains.
  - \_\_\_\_\_ Recognize proper objectives.
  - \_\_\_\_\_ Explain the importance of objectives.
- 

-----  
PAUSE  
-----

Did you do it? If not, take the time now. When you are finished, check your thinking against my answers in the next paragraph.

I decided to put the objective which begins with explain first, followed by list, recognize, rewrite, and write. There may be other ways to arrange them, depending upon how you thought about each statement.

If you are unsure about the proper order, look at Appendix E which gives the categories of common verbs according to the levels of difficulty. This list will be very important to your future work in instructional design.

Before we continue, let's take a moment to review what you have learned. Can you recall three important points that have been discussed so far? They are found in the three "REMEMBER" boxes. Try to list them in order. Don't worry. Your answers can be somewhat different from the exact statements in the boxes. Just try to recall the important ideas. Write on another sheet of paper.

-----  
PAUSE  
-----

The important three points that you have learned thus far are:

- 
1. Use task analysis and content analysis procedures to identify the content of instruction.
  2. Create performance objectives for the content.
  3. Performance objectives should proceed from simple to difficult.
-

Were you able to remember them? If you got most of them written correctly, then you are doing very well. If you were unsure about these three major points, perhaps you should reread the first sections of this module before continuing.

This would be a good stopping point if you would like to rest.

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PAUSE  
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Are you ready to write some objectives of your own? Let's try. Look at the following example.

---

EXAMPLE:

There are several common behavior problems which teachers should understand.

---

Try to write three or four objectives based on this sample content statement. Remember, you should move from simple to complex activities. Write your objectives on another sheet of paper. You should refer to Appendix E for help. When you are finished, look at the answers which I have suggested in Appendix F.

-----  
PAUSE  
-----

Did you create some possible objectives for the content idea about behavior problems? This was a difficult task. But don't worry, because you will improve with practice.

Let's move on now.

When your objective list is complete, what do you think you should do next? If you said, "Take the list of objectives and content areas to experts for their opinions.", you are exactly right.

We learned earlier that nothing is for sure in this world, so we must be careful to check our work with others. Get lots of feedback about your objectives before you begin to write the instructional material. In fact, it is a good idea to check and revise your work at each stage, before proceeding to another activity.

---

REMEMBER:

Show your work to other people. Revise your work often based on feedback from experts.

---

You don't always have to accept the feedback that others give you, but you do have to ask for their opinions.

Let's practice some more. Practice makes perfect, they say.

Look at the following dialogue. Try to answer the questions correctly, using everything you have learned so far.

---

PRACTICE:

Suppose you took the following objectives to Ahmed, an expert in evaluation, and he read them carefully.

Explain the different types of tests.

Explain when and how to use each type of test in proper ways.

Recognize how and when to construct each type of test.

Create a test plan for sample exercises.

After a few minutes, he said, "These objectives look very good. I can see that you spent a lot of time researching the topic of educational evaluation. However, I find one small problem. I think that the teachers should be required to actually use proper techniques of evaluation in their classrooms. You don't seem to have any objectives which suggest this for teachers."

Now, as an instructional designer, do you agree with Ahmed? Should there be an objective which requires teachers to use evaluation in their classrooms? If you said "yes" then we agree. I think that Ahmed is exactly right.

Can you write an objective such as Ahmed has suggested? Write it on another sheet of paper, then refer to the feedback in the next paragraph.

---

-----  
PAUSE  
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You probably wrote an objective that resembles the following two examples.

1. Evaluate students knowledge of a sample lesson using appropriate tests and activities.

2. Demonstrate proper use of evaluation techniques in classroom.

Of course, there are many others which would be acceptable. But they should all have teachers do something in the classroom if we are to meet Ahmed's expectations.

Okay, let's move forward.

When you are satisfied with the list of objectives for any particular content topic, you can begin to write some instructional text. Remember that the instruction is designed to teach the trainees the skills specified in the list of objectives. Therefore, each objective will be developed into some amount of instruction. You will decide how little or how much to write.

Since your materials will be self-instructional, you don't need to be too concerned with how long it takes the students to finish a particular module. Just write about the important things and don't worry about the length, at least in the beginning. Of course, don't write on and on and on just to fill pages, either.

One other important thing to remember when writing is that you should try to vary your style from time to time. For example, at times in this module, I have tried to use an inquiry or discovery method as well as a lecture approach. Most of us tend to write in a lecture style, and this becomes boring after a short time.

Try to involve the learner at all times. Make the instruction active and lively.

---

REMEMBER:

Vary your writing style. Use an inquiry approach as well as the standard lecture method. Make the instruction active for the students.

---

Now it is time for some more practice. Look at the list of objectives that are shown below. Read the objectives several times so that you are familiar with them.

Then, look at the sample text on the following page. Try to find the sentences in the sample text which reflect each of the four objectives. Remember, you learned that for each objective there will be some instructional text which explains the objective. So you should be able to find the objectives as they are developed in the text.

---

READ:

Explain the importance of questions.  
State the names of six kinds of questions.  
Order the question types according to difficulty.  
Recognize examples of each question type.

---

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SAMPLE TEXT:

Questioning is a very important skill for teachers. Perhaps it is the most important of all. Every teacher should be able to question students using several different types of questions. But, many cannot. In the classrooms of these teachers, the students often do not learn very much.

In this module, you will learn about several different types of questions, and you will learn how to use them properly in your classroom.

There are six different types of questions. They are knowledge, comprehension, application, analysis, synthesis, and evaluation. Some of these questions are simple to use, and some are more difficult.

Below, these six different types of questions are arranged in order of difficulty. The simplest is knowledge and the most difficult is evaluation. Look at the list and try to remember it.

Simple	Knowledge
	Comprehension
	Application
	Analysis
	Synthesis
Difficult	Evaluation

Now, let's look at examples of each different type of question so you can be sure to recognize them. First will be knowledge questions.

Knowledge questions often begin with words such as who, what, where, when, and other similar words. The answer to a knowledge question is usually very easy to determine.

---

INSTRUCTIONS:

Look at the objectives above. Then try to find the location in the above text where the objective is discussed. Sometimes it may be one line, or more often it will consist of several lines. Write on another paper.

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-----  
PAUSE  
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Did you write your answers? See how your thoughts compare with mine.

I believe that the first objective (Explain the importance of questioning.) has been developed in lines 1-7.

The second objective is found in lines 11-15; the third objective in lines 16-25; and the final objective is developed in lines 26-32, although you surely see that this last objective will require many more pages of development since it talks about all six types of questions.

---

**PRACTICE:**

Now, look at these same four objectives on page 10 (at the top of the page) and then try to write some sample instruction of your own. Try not to look at the sample which I gave. Just write in your own style. Remember to vary your approach. Don't just lecture. How did I do in my sample? Not too well, I'm afraid. I tended to lecture too much of the time. You should try to do better. Practice writing on another sheet of paper. When you are finished, you can compare it to my sample, if you wish.

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-----  
PAUSE  
-----

All right, let's assume that you have been writing your instructional module, based on the objectives and content list, for several weeks. You have read it many times and you have corrected as many problems and mistakes as you can find.

What should you do now?

---

**REMEMBER:**

Take samples of your module to others for feedback frequently.

---

Don't rush to get your materials to the printer. You should spend a lot of time correcting, testing, trying, rewriting, and changing before you consider printing your module in a final form.

First, take your work to some friends at CDC. Ask them to try your materials while you sit and watch. Take notes on any problems that arise. Then, revise your materials. (Do you remember reading and offering me feedback on this module while I was with you?)

After your friends have seen your work, then try it out with a few teachers, and repeat the revision process. When you are fairly sure that you have a good module, print several copies and try them in controlled settings in various parts of the country. Remember our discussions about the importance of trying everything in both the rural and urban areas?

The following chart shows the process you might follow.

---

EXAMPLE:

Friends ----- at CDC check your work.	Revise if ---- necessary.	A few ----- teachers try your module.	Revise if -- necessary.
--	------------------------------	--	----------------------------

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- Try your ----- modules with several teachers in rural and urban areas.	Revise if ----- necessary.	Produce the modules and begin ongoing testing program to determine future changes.
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The final requirements for the modules concern criterion test items which must be written. We talked about this on several days. Do you recall the three important parts of a test item? Write them on another piece of paper.

-----  
PAUSE  
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The three important parts are:

1. The conditions (what the student will need or is allowed to use when taking the test).
2. The task or skill statement (you already have this if you have written your objectives).

3. The level of mastery (how many must be answered correctly and to what level).

There should be at least one criterion test item for each objective. There should be many performance test items which actually require the trainee to perform a skill for an inspector or for the headmaster. Make the test a doing test when possible.

You can provide checklists of important skills when you think that this approach is proper. This will help the trainee focus on the most important skills, and it will assist the evaluator in his or her work.

Let's practice a little more.

---

PRACTICE:

Take the following objectives and make them into criterion test items. You have done this during the workshop. Look above at the three important parts before you begin.

SAMPLE:

Explain the various non-verbal communication variables.  
Recognize appropriate use of listening skills.

---

-----  
PAUSE  
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Did you write two criterion items on another sheet of paper? If not, do so now. Check your items with the samples below.

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EXAMPLE:

Without looking at any type of reference materials and using paper and pencil, the student will correctly explain the three non-verbal communication variables (loudness of voice, clarity of voice, and correctness of speech) in 500 words or less. The student must discuss each of the important points mentioned in the module for each variable.

Provided with examples of a classroom dialogue, but no other reference materials, the student will correctly identify appropriate and inappropriate indications of teacher listening behavior. When examples have been identified, the trainee will defend the evaluation based on specific points learned from the module.

---

Again, the above examples are only that. They are two examples out of many possible ones. If yours are similar, then you have a good understanding of criterion items. Remember to be very specific about what the student will do to prove his or her mastery of the objective.

These are the basic points of the development process which we were able to cover in the workshop. I am confident that you can develop the inservice training materials and that they will be professionally presented. If you need to, you can refer to this module from time to time, or to the several books that I left with you. Good luck.



## APPENDIX B

Sample content statement from an outline:

- \* There are several common behavior problems.

Samples of simple, knowledge type objectives:

- \* Explain the various types of behavior problems.
- \* Identify the various types of behavior problems.
- \* Discuss the various types of behavior problems.

Samples of more difficult objectives:

- \* Recognize the various types of behavior problems in written examples of classroom dialogue.
- \* Choose the various types of behavior problems which are reflected in written examples of classroom dialogue.

Samples of still more difficult objectives:

- \* Discriminate between the various types of behavior problems in written examples.
- \* Identify the various types of behavior problems while viewing a video tape of a classroom.

Samples of the most difficult objectives:

- \* Determine various behavior problems in your own classroom.
- \* Identify various behavior problems in your own classroom.

\*\*\* Do not worry if your objectives are a little different from my examples. There are many possible ways to write objectives and there are numerous worthwhile objectives for each point on a content outline. Just check to see if your objectives are similar to these samples.