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ABSTRACT

This guide, which is designed to assist secondary and postsecondary vocational instructors, examines the process of writing student performance objectives (SPOs). Discussed in a section on scope and sequence are the following: the definitions of the concepts of scope and sequence; considerations in sequencing course materials; deciding who, what, when, and how long to teach competencies in a program; and the impact of major planning decisions on the basic content of a curriculum guide. The second section begins with a brief discussion of the three types of performance objectives--pertaining to the cognitive, psychomotor, and affective domains. It explains why performance objectives are needed, what they do not do, and how they assist in lesson planning. The third section, which details the process of writing SPOs, contains the following: definitions and examples of the performance, condition, and criterion or standard components; examples of condition statements, criterion statements, and SPOs; tips for writing SPO criterion components pertaining to the psychomotor and affective domains; guidelines for writing SPOs that avoid common misconceptions and problems; and a summary of techniques for writing SPOs. Each section contains references. (MN)

Developing Your Curriculum Guide

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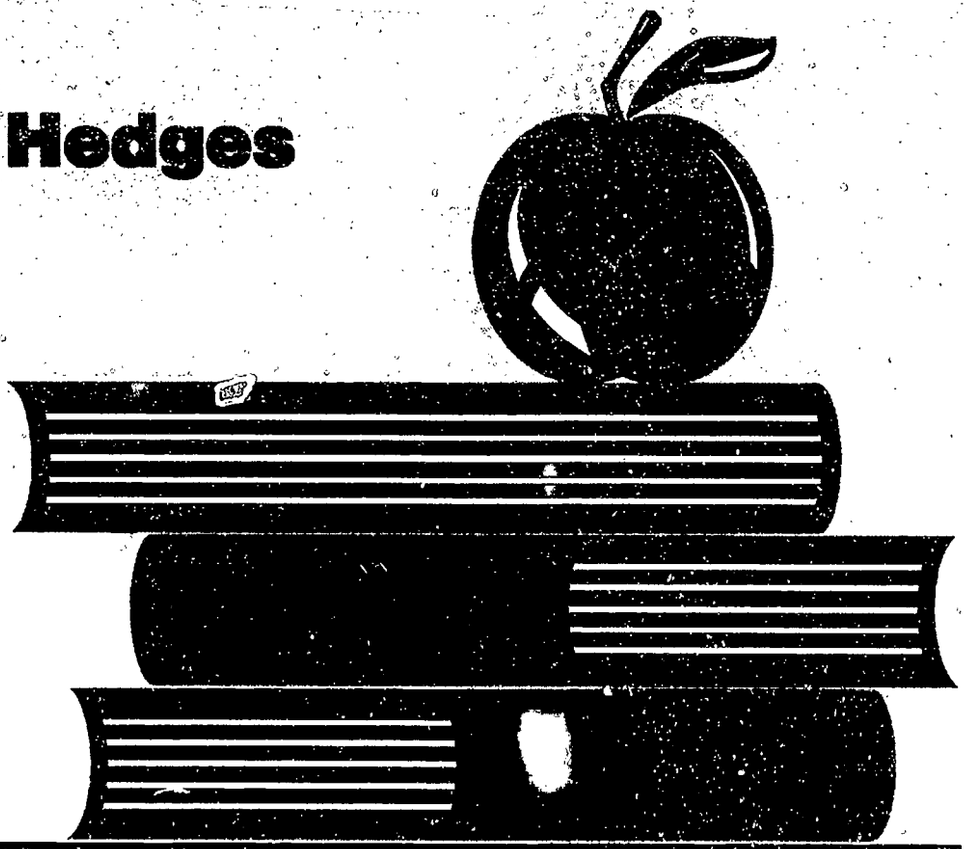

Developing Your Curriculum Guide:

From Competencies to Student Performance Objectives

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And teachers who have tried the suggestions in this publication and have found them helpful in solving their curriculum development problems.

Finally, thanks goes to my wife, Donna, for her patience and understanding concerning the commitment of time and energy required for visits to schools and working with educators.

About the Author

Dr. Lowell E. Hedges is an Associate Professor Emeritus, Department of Agricultural Education, The Ohio State University, Columbus, Ohio. Since coming to the university in 1979, Dr. Hedges has taught undergraduate- and graduate-level courses in curriculum development, teaching methods, assessing student learning, development and use of instructional materials, teaching the low-motivated student, and contemporary problems in vocational education. He directed the student-teaching program of the department and also the 36-credit- hour certification program for persons coming from business and industry to teach vocational education. Dr. Hedges continues to assist the Department of Agricultural Education as supervising teacher educator for the 36-credit-hour certification program for teachers and also conducts workshops throughout Ohio in course of study development for vocational and Tech-Prep programs.

Before coming to The Ohio State University, Dr. Hedges taught vocational agriculture in the Green Camp and Elgin High Schools for 15 years and was curriculum director and later superintendent of the Elgin Local School District. From 1969 through 1974, he directed the revision of the district's courses of study, basing the revisions on student performance objectives developed in cooperation with the faculty.

Dr. Hedges has served as Consultant in Agricultural Education in India (Regional College of Education, Ajmer, Rajasthan) and also assisted in the preliminary studies for establishing a Department of Agricultural Education and Extension, Makerere University, Kampala, Uganda.

Dr. Hedges is the author of four books and many papers pertaining to the supervision of beginning teachers, curriculum development and assessment of learning.

Foreword

As America's public schools struggle to survive, the urgent need for systematic curriculum development is deeply felt by teachers and curriculum developers alike. In response to that need, this book offers leadership by focusing our efforts on **student** performance objectives. Each student has the right to know in advance of instruction what is expected, how well it must be performed, and under what conditions. Given that information, students can be held responsible for their learning.

Leadership comes from those masters of their craft. Lowell E. Hedges is a master teacher. Allow his wisdom to teach you how to convert identified competencies into student performance objectives that will lead to systematic curriculum, instruction, and assessment—the foundation of good teaching and learning.

When you have finished studying this book, check to see whether you can meet the objective:

> **Write student performance objectives** *for a given list of competencies.* Each SPO must contain a performance, condition(s), and criteria and must meet the standards described in the "Summary of Techniques for Writing Student Performance Objectives (see p. 36).

Cathy Scruggs, Tech-Prep Curriculum Specialist
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Preface

This publication will help you wisely make the five decisions that need to be made before you can teach any lesson: who to teach, what to teach, when to teach, how long to teach, and how to teach. The first four decisions serve as the basic content of the **Course of Study** for your program. Deciding how to teach comes from the **Instructional Guide.** Together, these items—course of study and instructional guide—make up the **Curriculum Guide** for your program.

It is not the intent of this publication to go into depth regarding the detailed writing of a program's course of study or an instructional guide, two components of a curriculum guide. Any discussion concerning the two components is for the purpose of emphasizing the necessity of having properly written student performance objectives (SPOs).

Specific techniques for writing a course of study can be found in the Ohio publication, *Course of Study Handbook for Vocational Programs* (Revised August 1992). Guidelines for developing the instructional guide component of a curriculum guide are included in the publication, *Developing The Instructional Guide Component For A Curriculum Guide* (Hedges, 1995).

The SPO is at the center of planning and teaching (the five decisions mentioned above). Improperly written SPOs negate the other portions of the course of study and the instructional guide. Without a properly written SPO, lesson plans will fall short of effectively teaching the program content—those competencies specified in a program's OCAP (Occupational Competency Analysis Profile). A properly written SPO will help ensure that the instruction will be student-centered, rather than subject-centered. We teach **students** a subject, not a **subject** to students.

Therefore, the major portion of this publication is devoted to providing techniques for writing student performance objectives. Understand and utilize the tips in this publication, and your teaching will be more effective and your students will master the content in your course of study more quickly and the learning will be more lasting.

—Lowell E. Hedges, 1995—

Contents

ScopeAndSequence Is *Not* One Word

Two components of a curriculum guide are the course of study and the instructional guide. According to the *Course of Study Handbook for Vocational Programs* (Revised August 1992), a course of study is "a school district document that prescribes what shall be taught based on district and program philosophies, district and program goals, employer-verified competencies, and that requires approval by the school board and Ohio Department of Education." The instructional guide is defined as "a document based on the course of study that specifies learning activities and instructional methods, materials, and resources." The course of study and the instructional guide together make up the curriculum guide, which is defined as "a document that combines both a course of study and an instructional guide."

A major segment of both the course of study and the instructional guide is the "scope and sequence." Although these two components—scope and sequence—are commonly thought of as being one and the same, they are not. The two words are spoken as one, such as we would commonly say "bread-and-butter" or "cake-and-ice cream." But in reality, scope and sequence are separate entities, just as are bread, butter, cake, and ice cream. Each requires different "ingredients" and construction methods.

To again quote from the *Course of Study Handbook for Vocational Programs* (Revised August 1992), **scope** means "the content of a program as defined by the units of instruction, competencies, and competency builders." And **sequence** is referred to as "an arrangement of units, competencies and competency builders into a logical order of presentation." Each requires a different decision-making process for development.

In my work with schools in developing courses of study, the process of developing the scope or content of a program seems to be understood and to evolve without very many questions. However, the process (and the product) of sequencing the scope or content seems not to be as well understood.

To better understand the process (and the product) of sequencing, we might look at what sequencing is not:

- ➜ Sequencing is not necessarily the ordering (and the teaching) of the units, subunits, competencies, and competency builders as they appear in a program's OCAP (Occupational Competency Analysis Profile—a competency (or task) list verified by expert workers, which outlines the knowledge, skills, and attitudes needed to enter and remain in a given occupational area or succeed in an applied academics, dropout prevention, or work and family life program). The ordering or sequence of the items in the published OCAP is an arbitrary listing made by the OCAP committee of expert workers. Teaching in that sequence may not necessarily be educationally sound or a common-sense approach. Some competencies in the OCAP, of course, may be listed in a sequence to ensure that students are taught from "simple to complex," or "safety first," or in the sequence in which tasks are performed on the job. However, many competencies and competency builders can be taught in **any** order.

- ➜ Sequencing is not necessarily the teaching of all of the competency builders in a competency at the same time, i.e., in the same lesson, or even consecutively.

➜ Sequencing does not mean giving units, competencies and competency builders different identifiers when they are sequenced in a different order than the numerical one in which they appear in the OCAP. The identifying number should stay with the statement, regardless of where and when it is taught. That is the statement's "name." The statement retains that name wherever it might be, just as you would retain **your** name if you moved from one town to another, or from one room in a building to another. Keeping the same identifying number for a statement permits a teacher, for example, to cross-check competency test items with the competencies and competency builders as they appear in the OCAP.

The decision-making process for sequencing the scope or content of a program is explained in the following pages.

Four Major Curriculum Planning Decisions

To **sequence** the **scope**, or content, of a program involves four major curriculum planning decisions:

- Who to teach
- What to teach
- When to teach
- How long to teach

The answers to the second question—what to teach—provide the scope, or content, of the program. The answers to the other three questions serve as the foundation for sequencing the scope, or content, of the program. The decisions you make in relation to these four questions will help construct the *Sequenced Course Outline*, a major portion of the course of study component of the overall curriculum guide.

In the remainder of this section, we will look in more depth at each of these planning decisions and the factors that affect them (Figures 1-3). At the end of the section is a page from a detailed sequenced course outline for your review (Figure 4).

Deciding *Who To Teach* in Your Program

The decision of who will be taught in your program is primarily made by the administration or the "enrollment process." Usually, you will not have much of an opportunity to select the students who will enroll in your program. However, knowledge of your students is needed in order for you to make other curriculum development decisions as well as decisions affecting teaching methods and strategies.

If you are a new teacher, you may have been hired early enough in the summer so that you will have time to visit each of your prospective students prior to the start of school. During this initial visit, you will have the opportunity to check on their career goals, the degree of interest in your program, how supportive the home environment is of education in general and the student's needs in particular, plus any other constraints that will impact on the success of the student in your program and in school.

Additional background information about your students that will be of help to you in the teaching process can be found in the school files and department records. Much can be learned about your students by just observing them as they interact with people around them.

Deciding *What To Teach* in Your Program

The most important factor to consider when deciding what occupational competencies to teach is your own community. What are the types of business and industry that will employ your students? What are the needs of these businesses and industries? What are the types of jobs available? What skills are needed for those jobs? What new directions may these businesses and industries be taking in the future?

Figure 1 lists some possible sources of information regarding these questions concerning your community. The more specific source of information concerning what competencies to teach is the competency or task list for your program—a profile of the occupational, academic, and employability competencies that expert workers have determined are needed by students in order to perform successfully in the workplace. Each OCAP identifies the units of instruction, competencies, and competency builders for a program or occupational cluster.

Factors other than the community affect your decision concerning what to teach students who enroll in your program. The school (philosophy and goals, facilities, budget, etc.) has an impact on the scope/content of your program. Take these specifics into consideration when deciding what to teach. Your program's advisory committee can assist you in analyzing the local labor market needs of your community and may suggest additions to the OCAP.

You should also consider the needs of your students (career goals, personal needs) as you plan the content of your program. You will find assistance in school files and department records, plus you will gain additional knowledge through individual student conferences and home visits.

Figure 1

Question: What factors affect our decision concerning **what to teach?**

Factor	Specifics	Source/Location of Information
1. Community:	• Types of business and industry • Needs of business and industry ~ type of jobs available ~ number of jobs available ~ skills needed for jobs ~ new directions in business and industry • Philosophy and goals • (Any other constraints)	• Chamber of Commerce • Advisory Committee • Census data (library) • Newspapers, etc. • Cooperative Extension Service • Service clubs (Rotary, Kiwanis, Civitan, etc.) • OCAP (occupational analysis) • Own survey • Observation
2. Schools:	• Philosophy and goals • Facilities, equipment and instructional materials • Budget • Support personnel available • Activities • (Any other constraints)	• Board of Education policies • Teacher and student manuals • Administration • School activity schedules • County-,district-, and state-level activities • Observation
3. Students:	• Career goals • Background: training, home • Personal needs/problems • Job placement needs • (Any other constraints)	• School files; department records • Individual conference • Home visit • Observation
4. Teachers:	• Present skills • Philosophy • Interest • (Any other constraints)	• Discussion • Observation
5. Principles of basic disciplines:	• Mathematics • Science • Communications • (Any other constraints)	• Needs of own students • Recommended lists of competencies

Deciding *When To Teach* the Competencies in the Course Content

So far, you have made one decision—what to teach—using as a starting point the OCAP for your program. You've considered all of the factors identified as impacting on the decision concerning what to teach. Using the related information from those factors, you've prepared the scope, or content, for your program. The results of the decision of what to teach as course content is referred to as the *Course Outline*.

You're ready now to decide when to teach the content. Again, as with any decision, certain factors have a bearing on that decision. Related information must be obtained and considered about each factor. Figure 2 illustrates the procedure you can follow in deciding when you will teach the various competencies in the program content.

After you have identified the factors impacting on your decision concerning when you are going to teach the various competencies, obtained related information, and "weighed" the factors, you're ready to sequence the competencies—put them in order of teaching.

In so doing, you'll need to consider the grade levels in your program: one year, two years or four years? The scope/content will need to be divided among the various grade levels.

You may find it convenient to mark each of your competencies (and competency builders) with a symbol indicating the grade level(s) in which you and your colleagues will want to teach each competency. For example, you may use a "J" for the junior year, "S" for the senior year, or a "1" for the freshman year if that's the level at which your program is taught.

When that is accomplished, you're now ready to sequence the competencies in the order in which you will want to teach them. Again, consider the appropriate factors listed in Figure 2 in making your decision, e.g., early needs of student, difficulty of skills, etc. The results of the decision become the *Sequenced Course Outline*.

Figure 2

Question: What factors affect the decision concerning **when to teach** (a competency)?

Factor	Specifics	Source/Location of Information
1. Early needs of students:	• Overview of course content by teacher • Age/program level of students • Previous learnings • (Any other constraints)	• Course outline
2. Difficulty of skills:	• From simple to complex • Age/program level of students • (Any other constraints)	• Course outline
3. Frequency:	• Overview of course content by teacher • Age/program level of students • Proficiency level desired • (Any other constraints)	• Course outline
4. Job sequence:	• Analysis of job • (Any other constraints)	• Course outline
5. Seasons:	• Analysis of job • (Any other constraints)	• Course outline
6. Facilities/equipment:	• Size, shape of building/rooms • Equipment available • Instructional materials available • (Any other constraints)	• Department • Inventory lists
7 Student maturity/ motivation:	• Type of students in class • (Any other constraints)	• Observation • Records • References
8. Special activities:	• Department and school activities • County, district, state, national activities • (Any other constraints)	• Various schedules
9. Class period length:	• Curriculum • Schedules • (Any other constraints	• Various handbooks/policy manuals
10. Job placement needs:	• Details of each student's program • (Any other constraints)	• Observation • Home/job visits

Deciding How Much Time To Spend in Teaching the Competencies in the Course Content

You've accomplished much so far on your way to developing a curriculum guide. You've made some very necessary decisions: developed appropriate philosophies and goals; identified competencies to be taught at each grade level; and established the sequence in which those competencies are to be taught at each grade level. Now you need to decide how much time you should spend teaching each of the competencies.

Some assistance in making that decision is given in Figure 3. These are some of the factors to consider in the process of deciding how much teaching time to allot to each competency. You will undoubtedly identify additional things to consider.

Although there is nothing magic about the span of a week in terms of teaching time, the convenience of thinking in terms of a week is worth considering. Getting estimated teaching time down to so many hours for a competency is bordering on plain speculation. Thinking in terms of weeks provides adequate flexibility in planning, plus the procedure facilitates the use of school and program reports.

Figure 3

Question: What factors affect the decision concerning **how much time to spend teaching** a given competency or competency builder?

Factor	Specifics
1. Level of proficiency desired:	• What is the basic job entry level that's required? The higher the level of required proficiency, the more time it will take to bring students up to the required level.
2. Previous instruction/level of learning:	• The more knowledge that students bring with them to the lesson, the less time needed to bring them up to the desired competency level.
3. Number of competencies needed to be taught:	• All OCAPs contain required core competencies. There is limited time available for each. Total available instructional time needs to be allocated across all the competencies.
4. Special activities:	• Every school has activities that take away instructional time, such as required evaluations, school assemblies, vocational student organization activities, and athletic events.
5. Previous experiences of teacher in teaching this competency/competency builder:	• It seems logical that the more times a teacher has taught a competency and/or a competency builder, the more efficient will be the use of time.

How the Major Planning Decisions Serve as the Basic Content of a Curriculum Guide

When the four decisions have been made—**who to teach, what to teach, when to teach,** and **how long to teach**—the resulting information serves as the basic content of a **curriculum guide.** You can use the information from the four decisions in the following ways to construct the curriculum guide for your program:

1. **Course Outline**: This is the name given to the list of competencies and competency builders (the decision **"What to teach"**) after you have considered all the factors affecting the decision. Remember that the basic source of the scope, or content, is the program OCAP.

2. **Sequenced Course Outline**: Sequencing the content or scope of your program requires different decisions than those you used to determine the scope, or content. The sequenced course outline is developed by dividing the competencies among the various classes or grade levels you're going to teach (the decision **"Who to teach"**).

   You schedule the competencies and/or specific competency builders (the decision **"What to teach"**) for each class according to the best time to teach the competencies/ competency builders during the year and the best age level for providing students in the program with that content (the decision **"When to teach"**).

   You can then allot a specific amount of time for each lesson (the decision **"How long to teach"**). A **sequenced course outline**, then, is the course outline content divided among grade levels and then arranged into the most appropriate order for efficient and effective learning.

*When you have completed the above, using the information from the four decisions, you have developed a **COURSE OF STUDY.***

3. **Instructional Guide**: This document addresses the fifth decision, that of **"How to teach."** This document, based on the course of study, specifies needed learning activities and instructional methods, materials, and resources. Specifically, the document contains lesson plans based on the competencies/competency builders, converted to student performance objectives.

   In addition to the lesson plans, the instructional guide may also contain a list of rules and policies students should follow in the classes; how intra- and extra-curricular activities will be managed; strategies for operating labs; plus any other planning that needs to be done to do an effective job of teaching.

When you have prepared your lesson plans based on the competencies/competency builders, included rules and policies for your classes, developed strategies for operating labs, formulated overall management strategies for your program, plus listed materials and resources needed to teach the selected competencies, you have developed an ***INSTRUCTIONAL GUIDE.***

When combined, the ***COURSE OF STUDY*** *and* ***INSTRUCTIONAL GUIDE*** *make up the* ***CURRICULUM GUIDE.***

Figure 4
Segment of a Sequenced Course Outline

Program: Horticulture (Related Class, Juniors)

Week: 9-12

Unit 11. Turf and Landscape Worker
Competency 11.0.5 - Test soil and plant tissues
Competency Builders:
- 11.0.5.1 - Take soil and plant tissue samples
- 11.0.5.2 - Prepare soil and plant tissues to be tested
- 11.0.5.3 - Read results of soil and plant tissue tests
- 11.0.5.5 - Perform basic soil test and record results

Competency 11.0.10 - Fertilize plants
Competency Builders"
- 11.0.10.11 - Identify symptoms of nutrient deficiency
- 11.0.10.12 - Determine kind of fertilizer and soil amendments to apply
- 11.0.10.13 - Determine amount of fertilizer and soil amendments to apply
- 11.0.10.21 - Recognize symptoms of fertilizer burn
- 11.0.10.1 - Follow general safety precautions
- 11.0.10.2 - Interpret manufacturer's fertilization-rate charts
- 11.0.10.3 - Interpret fertilizer labels
- 11.0.10.4 - Identify application methods
- 11.0.10.9 - Determine application pattern
- 11.0.10.6 - Mix fertilizer solutions
- 11.0.10.5 - Calibrate fertilizer application equipment
- 11.0.10.7 - Apply liquid fertilizer

Week: 13-15

Unit 11. Turf and Landscape Worker
Competency 11.0.3 - Identify and classify plants
Competency Builders:
- 11.0.3.1 - Classify turf and landscape plants as monocots or dicots
- 11.0.3.2 - Classify turf and landscape plants as annuals, biennials, or perennials
- 11.0.3.13 - Classify turf and landscape plants according to growth habit
- 11.0.3.22 - Identify local plants

Unit 12. Nursery and Garden Worker
Competency 12.0.2 - Prepare media mixes
Competency Builders:
- 12.0.2.4 - Identify media functions
- 12.0.2.5 - Prepare media components

Unit 11. Turf and Landscape Worker
Competency 11.0.11 - Maintain landscape plants
Competency Builders:
- 11.0.11.1 - Follow general safety precautions
- 11.0.11.6 - Prune trees (e.g., branches, roots, tops)
- 11.0.11.7 - Prune shrubs (e.g., branches, roots, tops)

Source: Kurt Joviak, Horticulture Instructor, EHOVE JVS, Milan, Ohio)

(As a "memory refresher" concerning sequencing course content, please refer to pp. 1 and 2.)

References Used

Course of Study Handbook for Vocational Programs. Columbus, Ohio: Vocational Instructional Materials Laboratory, The Ohio State University, 1992.

Hedges, Lowell E. "Developing the Instructional Guide Component for a Curriculum Guide." Department of Agricultural Education, The Ohio State University, Columbus, 1995.

Student Performance Objectives:
What Are They, and Why Use Them?

A student performance objective is a description of a proposed behavioral change the teacher wants to bring about in a student—change in either the cognitive, psychomotor, or affective domain of learning. Or, to be more specific, a student performance objective is a three-part statement of what, in measurable terms, the learner must do to master a competency or competency builder. A true performance objective has three identifiable parts: (1) a description of the behavior (competency, competency builder); (2) the conditions under which the competency/competency builder will be measured; and (3) the standard or criteria, which states how well the competency or competency builder must be performed to be considered mastered.

An example of a student performance objective:

> Develop a résumé of your own [behavior] that contains all essential elements as identified in the sample [criteria] *provided by the teacher* [condition].

Three Types of Objectives

Another dimension of writing student performance objectives relates to the different types of performances that can be specified. These performances or activities include **knowing certain information** (classified as the cognitive domain), **performing certain physical activities** (classified as the psychomotor domain), and **exhibiting certain personal qualities or attitudes** (classified as the affective domain).

Why Student Performance Objectives?

To a certain extent, the following limerick communicates the feelings that some educators have about student performance objectives (Mager, 1975):

> *There once was a teacher who said,*
> *"Writing objectives makes me see red.*
> *I know what to teach*
> *And the students I reach,*
> *So why share what I have in my head?"*

The need for developing student performance objectives can be viewed from the perspective of the community, the businesses and industries in the community, the students, the teacher, the school administrators, and the vocational-technical program.

In general terms, student performance objectives define the outcomes of the program so that these outcomes can be understood by students—so they can determine exactly what is expected of them; teachers—so that they can identify what outcomes they are responsible for; and employers and administrators—so that they can determine whether the program is, in fact, providing the competent human resources needed.

In more specific terms, there is a need for precise student performance objectives because—

1. Educators are **accountable** for the educational process.
2. Educators must be **responsive** to the needs of the business or industry for which they are preparing students.
3. Therefore, it is necessary to **identify the intended outcomes** of the educational process.
4. **Student performance objectives identify these outcomes.**
5. For **students**, objectives provide information about what is expected of them in the program.
6. For **teachers,** objectives provide the necessary blueprint for the instructional process for which he/she is responsible.
7. In terms of **program,** objectives identify for the industry those skills that graduates of the program can be expected to possess.
8. Objectives establish a **base for program evaluation.** (NCRVE, OSU, 1986, p.6)

What Student Performance Objectives Do *Not* Do

We also need to understand what student performance objectives do **not** do. They ***do not define the teaching or learning activities that should be used to achieve them.*** Most student performance objectives allow for any number of ways of getting to the final outcome. In other words, student performance objectives define what the outcome must be, but ***not how to get there***.

How Student Performance Objectives Assist in Lesson Planning

There are four questions that must be answered when developing an effective lesson plan. Answers to these questions can be partially provided by student performance objectives. The four questions are listed in the left column; correlated reasons for student performance objectives are listed in the right column.

Lesson Planning Questions	Why Performance Objectives?
1. Where are we now?	1. Helps identify those behaviors that students are already exhibiting before you present a lesson designed to produce these behaviors. (Permits revision, refocus of instructional plan. Pretesting may be needed. Get to know your students. Some prerequisite competencies may need to be taught first.)
2. Where are we going?	2. Identifies expected learner outcomes for a given lesson or unit of study. The objective states where learners are going, but not how to get there.
3. What steps do we need to take to get there?	3. Basis for selection and organization of major learning materials, resources (tools, equipment, supplies, etc.), and experiences for effective learning.
4. How will we know if we've arrived?	4. Systematic means of devising ways of assessing student learning, i.e., what is in place at the time of assessment, and what assessment techniques will be most appropriate.

References Used

Mager, Robert F. *Preparing Instructional Objectives.* Second Edition. Belmont, California: Pitman, 1975.

National Center for Research in Vocational Education, The Ohio State University (NCRVE, OSU). *Develop Student Performance Objectives.* Second Edition. Athens, GA: American Association for Vocational Instructional Materials, 1986.

Writing Student Performance Objectives

As discussed earlier, a student performance objective is a statement that describes what the learner must do to demonstrate mastery of a task. All performance objectives include three basic components: (1) performance, (2) conditions, and (3) criterion or standards. These components can appear in any order. However, as we'll learn later on, the above sequence of components matches the sequence of student thinking: What do you want me to do? Are you going to give me anything to work with? How well do I have to do (to pass)?

Performance Component

The behavior, or performance, component of a student performance objective is basically the actual competency from the program's competency profile (OCAP). This statement identifies the performance or behavior which a student will be required to demonstrate. ***The "behavior" component of a performance objective should be precise, observable, and measurable.***

Condition Component

The condition component of a student performance objective informs the learner of what conditions or restrictions will be imposed when he/she is demonstrating mastery of a competency. The conditions component describes the scenario or environment in place at the time of assessment of learning. Five categories of conditions that could make up the assessment environment are described on p. 18.

Criterion or Standard Component

The third component of a student performance objective is called the criterion, or standard. The criterion tells learners what quantity and quality of performance are expected of them. All criteria should be based on the actual performance level needed on the job, except perhaps the factor of time. Seven possible categories of criteria are described on p. 19.

Examples of Condition Statements

(Adapted from NCRVE, OSU, 1986)

1. Equipment, supplies, or materials that the student is given to work with

. . . having available all equipment within the electronics laboratory . . .

. . . when given a set of blueprints . . .

. . . when provided access to all references and materials in the DE store . . .

. . . when given a list of performance objectives . . .

. . . using the guidebook for hazardous materials . . .

2. Materials to which the student is denied access

. . . without aid of references . . .

. . . using only those materials provided . . .

. . . having available only that equipment which has been set up . . .

. . . without the use of student notebooks . . .

3. Environment in which the performance must be demonstrated

. . . in an actual school situation . . .

. . . in a simulated classroom or laboratory situation . . .

. . . while in the dentist's office . . .

. . . using the fully functioning school auto mechanics laboratory . . .

4. Information that the student may be provided that will direct the action in a certain direction

. . . when given a written situation involving a family with ethnic eating patterns . . .

. . . when provided two lists—one of terms and another of definitions . . .

. . . using a case study provided by the teacher . . .

5. Specification of the time in which the performance should be accomplished

. . . after viewing a videotaped sales presentation . . .

. . . after the valves have been ground and installed . . .

NOTE: These are not the same as the "instructional strategies problem" found in teacher performance objectives; see pp. 32-33.)

Examples of Criterion Statements

(Adapted from NCRVE, OSU, 1986)

1. Accuracy within a tolerance limit

. . . within ± .1 degree as compared with the instructor's reading.

. . . with a tolerance of ± .001 inch as measured by a micrometer.

2. Speed

. . . completed within five minutes.

. . . ready for return to the customer within 24 hours of drop-off.

3. Percent or number to be achieved

. . . with 80% correct responses.

. . . two out of the three items must meet criteria for the "finished product."

. . . all information necessary for a dental history is recorded.

. . . at the rate of five per hour.

4. Reference to other material that identifies specific criteria

. . . as compared to the manufacturer's specifications.

. . . using the evaluation guide, which outlines specific criteria for table setting.

. . . according to class handout in communication skills.

. . . according to departmental office procedures.

. . . based upon the criteria specified in the assessment instrument.

5. Maximum number of permissible errors

. . . with no more than two errors.

. . . with no more than one of the total items not meeting "standards."

. . . missing no more than one grease fitting per machine.

6. Degree of excellence

. . . so there will be no dents in the wood.

. . . so the shine will reflect an object.

. . . so that the window will operate smoothly.

. . . so that the weld will withstand 100 pounds of pressure.

. . . all criteria must be achieved at the good or excellent level.

7. Or any combination of the above

Examples of Student Performance Objectives

Behaviors (competencies) are in bold type; *conditions are in italic type;* criteria are in underlined type.

1. **Compute using appropriate units of measurement** *when reading and using a given recipe.* Calculations should be 100% accurate.

2. **Identify** (with 100 percent accuracy) **the major characteristics and uses of bluegrasses, bentgrasses, ryegrasses, and fescues** *when given samples of each.*

3. **Wash hands following aseptic techniques** *when provided with sink and soap.* Performance assessment must be completed with 100% accuracy.

4. **Repair or replace window mechanism** *when provided with an automobile with a damaged window mechanism.* The mechanism should operate smoothly.

5. **Make a chest X-ray** *when given a patient, an X-ray unit, and the necessary materials.* All items on the performance assessment should receive a "yes" rating.

6. **Demonstrate effective listening skills** *when given oral directions.* Responses should correctly match directions.

7. **Plan a balanced diet** that will meet basic nutritional guidelines and take into account the family's eating patterns, *given a case study involving ethnic eating patterns and the recommended daily allowances.*

8. **Complete job application forms** *when presented with a simulated job availability.* A minimum score of 800 must be received on the Job Interview Skills Contest assessment instrument.

9. **Develop a résumé of your own** that contains all essential elements as identified in the sample *provided by the teacher.*

10. **Critique the presentation** *after viewing a videotaped sales presentation, using the critique form provided.* Your critique must match the model critique.

11. **Price auto repair work,** *using any of the price lists available in the shop and when given examples of completed auto repair forms,* with no more than $1.00 error in ten tabulations.

12. **Write student performance objectives for a lesson** *in an actual teaching situation.* Your performance will be assessed by your resource person, using the Teacher Performance Assessment Form.

13. **Prepare a soil mixture for potting plants** that contains the recommended amounts of each ingredient *using the soil available in the horticulture laboratory.* The size of the particles should be no more than 1/8" in diameter.

14. **Define editing symbols** *on a given list* with 90% accuracy.

15. **Demonstrate concern for safety of self and others by** (a) pointing out safety hazards to others; (b) turning off all machinery when it is not being used; and (c) observing all caution signs *when in the food service laboratory.*

16. **Change** *(any)* **cash register tape** within two minutes so that the register is ready for tabulation.

17. **Maintain inventory records** *when given the appropriate information about inventory of office equipment and software.* Maintain inventory records with 90 percent accuracy.

18. **Grease all critical points,** as outlined by the manufacturer, *on any car coming into the auto mechanics laboratory requiring routine maintenance.*

19. **Perform resuscitation procedures on a laboratory mannequin** according to standard CPR procedures, *when given a simulated accident situation.*

20. **Write a relevant paragraph** that exhibits the structure presented in class, *when given any topic sentence.*

21. **Mark the source regions of** (at least three) **air masses and indicate their direction of movement in summer and winter** *on a map of the Northern Hemisphere.* The answer must conform to the text.

22. **Propose a satisfactory pond renovation program** *when given an old pond with problems regarding algae, overstocking, and silting.* The program will be evaluated on the basis of cost, the effect upon the environment, and the conditions after renovation.

23. **Remove the valves from a small engine** *of the type studied in class, when given an engine and the proper tools.* The work must compare in quality with a demonstration given by the instructor.

24. **Identify factors that affect self-esteem of self and others** *when given a case study involving self-esteem.* List at least ten factors affecting self-esteem.

25. **Identify strategies to promote positive self-esteem of self and others** *using real-life scenarios.* Select all appropriate strategies from a given list.

26. **Use criteria and standards to make ethical decisions** *when given a simulated decision-making situation involving ethics.* Decision will meet ethical and legal standards of society as developed in class and recorded in student notebooks.

27. **Contribute to the efficiency and success of a group** *when serving as a member of a vocational student organization committee.* You will be expected to exhibit the following behaviors: (a) attend all committee meetings; (b) express your opinion voluntarily; (c) revise opinions when new facts are known; (d) support the majority vote of the group.

You have noticed, hopefully, that in some examples, a component is inserted within another component, e.g., the criterion component in Example 2 is inserted within the performance component. Doing so makes for a smoother flow of words in the sentence. Also, by inserting a component within another, the modifier is placed closer to the word intended to be modified. In Example 2, the modifier (criterion component) is placed next to the word being modified, *Identify.* Placing parenthesis around the insertion indicates that a component is being split by another.

Tips for Writing the SPO Criterion Component: Psychomotor Domain

One of the common dilemmas faced by writers of student performance objectives, especially when writing within the psychomotor domain, is "How specific should the criterion statement be?"

If you have written student performance objectives within the cognitive domain, you have probably experienced the same dilemma, but to a lesser degree. Criterion components for cognitive-domain objectives can more easily and effectively utilize criteria such as percent or number to be achieved, maximum number of permissible errors, or speed.

In contrast, standards of desired performance for objectives within the psychomotor domain are concerned with meeting manufacturer's specifications, industry and/or business standards, licensing requirements, a specific sequence of operations to meet safety requirements, or similar standards. These standards of performance can be quite lengthy, specific, and detailed. To include the standards in a student performance objective would require a half page to several pages.

To include student performance objectives of this length in a course of study is not practical, nor is it necessary. The following tips explain at least three ways to indicate a criterion or set of standards without actually printing the details in the objective. All are ways of pointing to the criterion.

1. If an intended standard or criterion has been made explicit in some document such as a reference book or an equipment manual, the simplest and easiest thing to do in the objective is to add words that tell ***where to find the criterion.*** For example:
   - Follow manufacturer's specifications, *Repair Manual,* Fluted Flutron, 1990 edition.
   - . . . according to the Standards Chart, 1992 edition.
   - . . . according to the criteria described on p. 27, Manual 13-5A, 1989.

   This procedure should only be used, however, when the standard or criterion is clearly stated in the reference you are pointing to and only when that reference is always available to **both** students and instructors.

   When practical, any standards chart or list of specifications should be given to students to keep in their notebooks for reference purposes.

2. If the desired performance consists of a number of steps, and if an evaluation checklist exists or can be constructed, you might point to that checklist as a description (or partial description) of the standard or criterion. For example:
   - All steps are to be performed as well as, and in the sequence described by, the *Checklist of Proper Etiquette.*
   - Each action is to compare in quality (sequence is not important) with the *Performance Checklist of Star Gazing.*
   - Performance will be evaluated according to the criteria on the performance assessment instrument.

3. There may be times when you might find it difficult even to describe in words what competent performance is. To overcome this difficulty, an effective means of communicating desired performance is to point to performance shown on a piece of film or videotape, saying, in effect, "Do it like that. That's the correct way."

   Using a film or videotape might be useful if the performance involves complex movements difficult to describe, such as certain types of welds, surgery, dance steps, diving, or underwater maneuvers. However, be alert to a potential communication problem in using this method. Don't include the use of a film or videotape without also describing the key characteristics of the desired performance in the objective itself. Such a practice would be almost as uninformative as that other false criterion, "to the satisfaction of the instructor."

Refer to film, videotape, or documents in the criterion component only if they help in making the desired criterion clear to all concerned, especially the student being taught and evaluated.

Tips for Writing the SPO Criterion Component: Affective Domain

Many educators believe that the learning outcomes classified as belonging to the affective domain are more difficult to select and to measure than those outcomes classified as belonging to either the cognitive domain or the psychomotor domain.

The purpose of this section is to assist you in the writing of student performance objectives that are classified as being within the affective domain. I believe that student performance objectives within the affective domain need to be written in a slightly different manner than those objectives within the cognitive and psychomotor domains. The difference occurs mostly in the criterion component.

Writing Within the Affective Domain

The affective domain is the category of learning that covers the attitudinal, emotional, and valuing behaviors of learners. So-called "learning" in this domain is evidenced by interests, appreciations, and the like.

Let's think more in depth on this domain of learning and the eventual writing of student performance objectives for the affective domain.

For a basis of our thinking, let's consider one of the competency builders in the Employability OCAP: 11.2.3 *Contribute to team efficiency and success.* What is the expected student performance—the action to be done on the part of the student? I think we would quickly state, *Contribute to efficiency and success.*

The basic or primary action verb is *contribute*. But what is it that we are to "contribute" to the efficiency and success of the team? The competency builder doesn't give us a clue. So we quickly find ourselves asking the questions, What does *contribute* mean? What are students supposed to do to indicate that they can appropriately contribute? What behavior do I look for?

That's the problem: before we can write a student performance objective within the affective domain, we need to determine what evidence to look for that tells us the learner is performing "correctly." Mager, in his book *Preparing Instructional Objectives* (1975), gives us valuable help in solving this problem.

Covert and Overt Performance

To begin to address this question, let's consider this situation: In the unit on employability skills, there are many action verbs in the affective domain of learning. (Note: it is difficult to separate some cognitive actions from affective actions). In themselves, these action verbs indicate *covert performance* on the part of the learner. *Covert* refers to performance that cannot be observed directly. The term refers to performance that is invisible, internal, and/or mental. *Covert performance* can be detected only by asking someone to say something or do something visible. *Demonstrate, contribute, recognize*, and *recall* are some examples of covert performance—expected behavior that cannot be observed by the eye or ear.

In contrast, *overt performance* can be observed directly—a single behavior that can be observed by the eye or ear. We could refer to this behavior as the *primary* behavior. Action verbs considered as primary behavior would be *cut, clean, connect, mix, install, lubricate, drill, unclog, bend,* and similar verbs.

In comparison, the behavior exhibited by the student to give evidence that they *possessed* a certain attitude, or held a certain belief, or appreciated something, would be *secondary* behavior.

To summarize: What we are talking about is the word or words that describe an intended action, whether that action be directly observable (**overt**, such as running, writing, reciting) or invisible (**covert**, such as solving, recognizing, recalling).

To *contribute* something—to *demonstrate* some value, attitude, appreciation, or feeling is not as visible a direct action as expecting a student, for example, to "Recite the Pledge of Allegiance to the Flag." To evaluate someone reciting the pledge is to observe a direct, single behavior. The direct, single behavior we would be observing would be the person *orally saying* (reciting) the words of the pledge. No behavior is needed other than the speaking. "Recite" is a single, direct action. No explanations are needed concerning what behavior we need to observe; no ancillary behavior descriptors are needed.

In contrast, to evaluate someone *contributing to the efficiency and success of a group*, or to evaluate someone *demonstrating initiative to facilitate cooperation*, we need to observe **secondary or indirect behavior**. This type of behavior specifies actions or options for students to use to "demonstrate" (action verb intended to be primary or direct behavior), in their own way, that they have the necessary attitudes, feelings, values, and/or appreciations to exhibit the desired behavior. In this example, the primary behavior is *contributing* or *demonstrating*.

Indirect or Secondary Performance

The question now is (and before writing any student performance objective within the affective domain):

> "If I were watching someone who possessed this feeling or attitude or appreciation or value, what type of behavior might I expect him/her to exhibit?" (NCRVE, OSU, 1986, p. 32)

In other words, for the student performance objective for the above competency statement, what secondary or indirect behavior is expected that would indicate that the student can or will *contribute to the efficiency and success of a group?*

To follow this advice when writing a student performance objective for this competency builder, consider the following response to the above question:

If I were watching someone who is supposed to be *contributing to the efficiency and success of a group,* I might conclude that I would expect to see such behavioral patterns as—

- attends committee meetings regularly
- avoids hurting the feelings of other people
- challenges the reasoning of others in a meeting
- changes opinion when new facts are presented
- expresses his/her opinion voluntarily
- volunteers to accept jobs needing to be done
- discusses issues in a friendly, nurturing manner
- assumes responsibility when it comes his/her way
- demonstrates consideration for other people
- values the opinions of others
- supports the majority vote of the group

Writing the Complete Affective Domain Objective

We know that a student performance objective has three components:

Performance:	the competency statement, either the competency or the competency builder; i.e., what the learner is supposed to be able to do
Conditions:	the environment in which the performance will be assessed; important conditions under which the performance is expected to occur
Criteria/Standards:	the quality or level of performance that will be considered acceptable, i.e., competent at entry-level

Thus, we might write the student performance objective for the competency builder in this way:

Contribute to the efficiency and success of a group *when serving as a member of the vocational student organization committee.* You will be expected to exhibit the following behaviors:

a. attend all committee meetings;
b. express your opinion voluntarily;
c. revise opinions when new facts are known;
d. support the majority vote of the group.

Different Criteria for Affective Domain Objectives

Earlier in this document I mentioned that the composition or content of an objective written within the affective domain is slightly different than that for the objectives written within the cognitive and the psychomotor domains. The difference is primarily in the way the criterion component is written.

In the cognitive and psychomotor domain objectives, we would use the seven categories of criteria found on p. 19. These criteria deal with time, quality, accuracy and other criteria. In contrast, the criterion component for an objective written within the affective domain can be a statement using indirect or secondary performance terms. These are words that describe the behavior that we might expect to observe when watching someone "perform" the primary action verb—the performance of someone who possesses this feeling or attitude or appreciation or value stated in the competency or competency builder.

Using a Performance Assessment Instrument in the Criterion Component

In writing the performance objective on p. 25, I used only 4 of the 11 behavioral patterns listed previously on that page. After reviewing the objective, you may decide that you would like to include all 11 behaviors as desired behavior in contributing to the success of a group. If you do, what will those 11 behaviors do to the length of the written objective? You're correct: it will be a very long objective on the printed page. Too long for most published courses of study.

How can we include the 11 behaviors and still end up with an objective of reasonable length for the printed page? Include all of the behaviors in an assessment instrument. You would construct a checklist of behaviors. During assessment time, you would mark those behaviors exhibited by the student being evaluated.

If you decided to use a checklist of behaviors as the criteria, your objective would probably look like this:

> **Contribute to the efficiency and success of a group** *when serving as a member of the youth organization committee.* All items on the performance assessment should be rated acceptable.

All 11 behaviors would appear on the performance assessment, i.e., the checklist. The criterion statement worded in this manner —performance assessment (instrument)—would be within criterion category 4 on p. 19.

More Thoughts on Handling Overt and Covert Performances

Sometimes you may be in doubt about how well the action verb in a competency or competency builder is accurately communicating the performance intent. This doubt could occur when working within the cognitive, as well as the affective, domain.

There are many skills that we expect the student to perform that are covert in nature. *Many are in the cognitive domain.* For example, **identifying** is a covert skill. You can't see anyone doing it. But you could see a person doing activities that were either associated with the identifying or that were the result of the identifying. So, all you would do is add a word or two to your objective to let

everyone know what **directly visible behavior** you would accept as an indicator of the existence of the performance.

Therefore, if you want to avoid arguments about what the performance really means, follow this rule of thumb (Mager, 1975):

> Whenever the performance stated in an objective is *covert*, add an indicator behavior to the objective. (Show the one single visible thing students could do to demonstrate mastery of the objective.) Make the indicator the simplest and most direct one possible.

Here are some examples of the use of the above rule. You will notice that a word or two is added to the performance (action verb) in the objective to let everyone know what directly visible behavior you would accept as an indicator of the existence of the performance.

Discriminate *(sort into three piles)* . . .

Recall *(write it)* the procedure for making a ribbon . . .

Identify *(mark off; or circle; or point to)* fuses on a schematic diagram . . .

Solve *(write out solutions)* . . .

Discriminating is a skill, but you can't see it going on. So you need an indicator to show whether the skill is in good shape. How can you tell whether someone is *recalling?* It's easy. Have that person tell you what is being recalled, either orally or in writing.

Some words, such as the action verb, *apply*, can be confusing in meaning. The word sometimes **does** describe a performance. If the objective were about applying paint or applying polish to shoes, we would agree that we could tell when someone was doing the applying. But "apply scientific rules" is rather like "applying self with a proper attitude." We don't have the faintest idea of what the student would be doing. If a student were "applying self with a proper attitude," would he or she sing a song, mix a solution, smile all the time? The statement of performance doesn't give us any clue (Mager, 1975).

So, when you are looking for the performance, ask the question, What is the **doing** word?

Another format you could use to clarify the behavior that you would accept as an indicator of the existence of the stated performance is to use commas instead of parentheses to set off the secondary behavior. This procedure places the behavior more into the flow of the sentence.

Discriminate, by sorting into three piles, . . .

Recall, by writing, the procedure for making a ribbon . . .

Identify, by circling, fuses on a schematic diagram . . .

Solve, by writing out the solutions, a set of given problems . . .

Typical Covert Behavior in Competency Statements

Other action words that may be considered as *covert behavior* are as follows:

> *compare, exhibit, determine, analyze, articulate, investigate, relate, discern, distinguish, differentiate, classify, catalog, apply, be aware of, examine, explain, resolve, be informed, respect, accept, display,* and similar words

Writing SPOS That Avoid Common Misconceptions and Problems

The following are some common misconceptions and/or problems that writers of objectives sometimes encounter. The author has received assistance from Blank (1982) and Mager (1975) in identifying and responding to these mental roadblocks to writing effective student performance objectives.

1. *The three components of an objective must be written in the following sequence: conditions, performance, and criteria.*

False. The three parts can be in any sequence. For example:

- Define editing symbols on a given list with 90% accuracy.
- With 90% accuracy, define editing symbols on a given list.
- Given a list of editing symbols, define them with 90% accuracy.

The only state of Ohio requirement concerning the three components is that they be present in the student performance objective. There is no required sequence. However, the format of the OCAP for a program easily facilitates the sequence of performance, conditions, and criteria. Beginning the student performance objective with the performance component saves much rewriting, especially when using a word processor with the competencies/competency builders on disk. All you need to do is to bring the competency statement on screen, move the cursor to the end of the competency statement and begin to type in the conditions or criterion component.

Also, the component sequence of performance, conditions and criteria matches the thinking of students as you prepare them for assessment of skills, attitudes and understandings: "What do you want me to do?", "Are you going to give me anything to work with?", and "How well do I have to do (to pass)?".

Another reason for this sequence: modern English relies heavily upon word order to show relations among words. Word order is the principal means by which we keep our subject-verb-object relations clear. Word order is also the principal grammatical means by which we keep many of our modifiers attached to the words they modify. We have to be especially watchful of phrases and clauses that modify nouns, since they normally attach to the nearest noun preceding them. Consequently, unless we are careful we can write sentences such as—

He bought a dog from his neighbor with a lame hind leg.

The members of the advisory committee wish you to notify them if you will attend the open house on the enclosed card.

More specifically in terms of writing performance objectives, you may write some such as—

Identify which sources are primary and which are secondary *given a research paper* with fewer than one error per ten sources.

As written, the criterion component, "with fewer than one error per ten sources," modifies research paper. The intent was to have the phrase modify "identify."

The above illustrates the value of writing a performance objective using more than one sentence. (We'll discuss this technique in Misconception Number 7.) Remember, we're trying to communicate effectively with the student.

We could revise the above objective (still constructed as one sentence) to read—

> **Identify** (with fewer than one error per ten sources) **which information sources are primary and which are secondary,** *when given a research paper that contains a bibliography.*

Another advantage of beginning the student performance objective with the performance component: we lessen the tendency to rephrase the competency statement—changing the action verb in the name of "clarifying the meaning of the competency." We are not tempted as much to reword, explain, redefine, or expand the original action verb placed there by the people writing the OCAP or any other list of performances desired of students. The "changing the meaning of the action verb" problem most usually occurs when the writer starts the student performance objective with the conditions component.

2. *A student performance objective must include the words, "the student will be able to" prior to the performance component.*

False. No need to use meaningless and repetitious phrases. Ask yourself: "Who are these objectives written for, if not for my students? And who will be performing the competency, if not my students?" Write the objective as if you were orally telling your students what they were going to be tested on, under what conditions, and how well you expected them to perform so that you could say to the student, "You are competent in this task."

Develop a mind-set that the objectives are written for students, not just for teachers. Use "student language." Speak to the student. If we do this, we would not write, "The student will be able to make a collage of him/herself." Instead, we would write, "Make a collage of yourself."

3. *It's okay to put words in the performance component that relate to positive behavior, such as "correct," "proper," "good," "right," and so on.*

False. We can assume that the student will learn to perform the task in the "correct" manner. Why would you want to teach the student to perform in an "incorrect" manner? Any reference to standards for performance belongs in the criterion component of the student performance objective, not in the competency statement, whether it be the competency or the competency builder.

*4. It's okay to use as the **criterion** component, the phrase "to the satisfaction of the instructor."*

False. Students know they have to satisfy the instructor. What they need to know is just what they would have to do to produce such satisfaction. There is no reason why instructors cannot say something about the basis for their judgments concerning whether a student is or is not competent. In other words, to say "to the satisfaction of the instructor" is a lazy way out of deciding when a student is proficient in a competency.

In addition to the phrase "to the satisfaction of the instructor," writers are tempted to use false criteria such as, "Must be able to make 80 percent on a multiple-choice exam," or "Must be able to pass a final exam." To say "80 percent on a multiple-choice exam" is not to describe the desired quality of performance. We all know how easy it is to manipulate the difficulty of an examination by varying the wording and the choice of items. To say that students had to get 80 percent on a paper-and-pencil exam is to tell them little that could help them guide their own efforts as students learning to be competent in the workplace.

However, to say "80 percent correct responses on a performance test" is not the same as "80 percent on a multiple-choice exam." With a performance test or performance checklist—whichever term we prefer—we are measuring actual student performance against pre-set criteria stated in terms of desired and expected student competencies.

*5. It's okay to use as the **conditions** component, the phrase "at the end of this lesson."*

False. These words describe something about the instruction itself. They do not describe something that the learner will have or will be denied when demonstrating achievement of the objective. **Remember: the condition focuses on the assessment situation, not the learning situation.** If you allow the objective to describe instructional procedure, you will restrict all concerned in using their best wisdom and experience to help accomplish that outcome. Remember, also, that a student may be able to perform as called for in the objective without ever going through any of the learning activities. That's what competency-based education is about!

Teacher objectives (written by teachers for themselves in their lesson plans) contain elements not needed (or desired) in student performance objectives. The big difference is the presence of instructional strategies. These are found in teacher performance objectives (and rightly so) but should not be included in student performance objectives.

Student performance objectives do not define the teaching or learning activities that should be used to achieve the indicated student performance (action verb in the competency statement). Most student performance objectives allow for any number of ways of getting to the final outcome. In other words, **student performance objectives define what the outcome must be, but not how to get there.** "How to get there" is found in a **teacher** performance objective and the lesson plan.

6. *A student performance objective must be written as one sentence.*

False. There is no reason why an objective must consist of a single sentence. On the contrary, you will often find occasions where quite a few sentences might be required to communicate your intent clearly. For example:

> **Mount workpiece in 3-jaw and 4-jaw chucks** *when given a typical lab turning operation assignment.* Follow procedures outlined in the operator's manual. Outside diameter to be round and straight within .001" T.I.R.

7. *The student cannot sufficiently understand the meaning of the competency builder unless it is restated or further defined when used as the performance component of the student performance objective.*

False. The **exact** wording of the competency builder (competency statement) **can** be used as the performance component of the student performance objective. Further explanation or definition via subdivision of the competency builder (competency statement) is done in the lesson plan/presentation, **not** in the student performance objective. Subdivisions of any competency level in the OCAP "explain" the meaning of that level. For example, the meaning of "Program" is explained by "Units," and each "Unit" is explained by its "Competencies," which in turn are explained by their respective "Competency Builders." Competency builders are explained in the lesson when subdivided into "Steps," and steps are explained when subdivided into "Activities," which comprise the bulk of the lesson plan/presentation.

Many times, using different words changes the intent of the competency/competency builder. In the following SPO example taken from an active course of study, the expected student performance is no longer "maintain work flow."

> COMPETENCY 4.13: Maintain work flow
>
> Objective: *Given a simulated office environment,* **identify and use time-management and organization techniques** to accurately complete assigned tasks in a timely manner.

By trying to explain what "maintain work flow" means, the writer has made the expected performance to be "identify and use time-management and organization techniques" (in reality, these words could appear as part of the criterion component in the objective, or even the conditions component.)

Let's rewrite the performance objective using the exact wording of the competency statement as the performance component of the objective. Also, let's correct other errors in the objective as written: vague wording, e.g., "timely manner"; and two performances rather than just one, e.g., "identify and use time-management."

> Objective: **Maintain work flow** *in a given simulated office environment.* Use correctly the time-management and organizational techniques studied in class and recorded in student notebook.

8. *A teacher performance objective is the same thing as a student performance objective.*

False. Don't be confused and mistake a teacher objective for a student performance objective.

A teacher objective is exactly what it says it is: directions for the teacher that will assist the teacher in getting the students to a predetermined point in their learning. Consider the following competency from the Employability OCAP:

> COMPETENCY 3.2: Analyze the relationship of personal values and goals to work ethic both in and out of the workplace.

Converting the competency statement to a performance objective, the teacher may write it thus:

> *Given class discussions and written and/or oral instructions,* **the student will** accurately **analyze the relationship of personal values and goals to work ethic** both in and out of the workplace.

In effect, what the teacher is saying in the objective for competency 3.2 is—

> To assist the students in learning how to analyze the relationship of personal values and goals to the work ethic, both in and out of the workplace, I am going to use class discussions to present my material. I will also be giving them written and oral instructions on how to do the analyzing. By the end of the lesson, I expect them to analyze relationships in an accurate manner.

In contrast, the student performance objective is written primarily for the student (although it does give guidance to the teacher concerning desirable learning experiences to use, instructional materials to prepare, and methods to use for evaluation of learning). Student performance objectives define what the outcome must be, but not how to get there. In a student performance objective, there should be no instructional strategies such as, "Given class discussions and written and/or oral instructions."

9. *Instructional strategies and the conditions component in the objective are the same.*

False. Some writers mistake instructional strategies for the conditions component of a student performance objective. Please keep in mind that the conditions component explains what is in effect at the time of assessment. Anything that has occurred prior to the assessment is in the past and therefore cannot be considered as something "given" or "withheld" at the time of assessment.

Objectives that include an improperly written conditions component, such as "given proper safety instruction," create several problems. For one thing, the term "proper" is not needed. We should ask ourselves, "Would we have given them **improper** safety instruction?" We wouldn't. Therefore, the term "proper" is inappropriate and unnecessary—at the very least, a criterion in the competency statement; at worst, a term that is contradictory to common sense. And, too, the safety instruction occurred prior to the assessment situation.

Remember also, that in competency-based education, a student may elect to take your competency test without ever having set foot in your classroom or lab. They have learned elsewhere the competency you normally teach.

Converting Competency 3.2 (p. 32) to a student performance objective could be done as follows:

> **Analyze** (correctly), *(using criteria studied in class),* **the relationship of personal values and goals to work ethic both in and out of the workplace.**

10. Competency statements can include standards of performance.

False. Competency statements that contain criteria or standards of performance may restrict a teacher in adapting the competency for the local business or industry situation.

Also, the standard may cause confusion on the part of some writers in that they will include additional criteria in the criterion component of the objective. To illustrate, let's consider the following competency builder (wording not uncommon) from an actual OCAP in use:

> 1.1.8: Handle all tools safely according to manufacturer's specifications.

The resulting student performance objective (based on the OCAP) taken from this program's course of study reads:

> *Given proper safety instruction,* **handle all tools** safely according to manufacturer's specifications with 100% accuracy.

The competency builder as written includes more than the performance desired of the student, i.e., handle all tools. The builder also includes a criterion, i.e., safely. The builder also includes a second criterion, i.e., according to manufacturer's specifications. To compound the problem of location and number of criteria, the objectives contains a third criterion, i.e., with 100% accuracy.

The criterion, "safely," would be sufficient in itself as a measure of how well we want students to "handle all tools." I suppose that if we want to clarify what we mean by "safely," we could use the words, "according to manufacturer's specifications," which the OCAP writers did. I think it fair to assume that if we handled tools according to manufacturer's specifications, we would be handling them safely, i.e., with 100% accuracy. Therefore, we would not need to add as a criterion, "with 100% accuracy." That is implied when we say, "follow specifications."

11. Students don't need copies of objectives. These are the property of the teacher.

False. Students need (and should have) copies of all objectives taught.

Student performance objectives are read/used by many groups: teachers, advisory committee members, supervisors and other school administrators, and students and their parents. One use that teachers are not yet accustomed to is that of student use of objectives. In the past, we never thought of giving a set of our objectives to the students—these were teacher performance objectives. With the requirement to write student performance objectives (Ohio

Modernization Plan, Rev. S.B. 140, 1989), we now need to change our mind-set concerning the use of student performance objectives, i.e., give them to students, either at one time or as we move from lesson to lesson. Eventually, at the end of a school year, students should have in their notebooks a complete copy of all student performance objectives taught/learned that year.

12. *To prevent boredom when writing and/or reading SPOs, it's okay to use different words or phrases to say the same thing.*

False. Beware of falling into the trap of the "sportswriters' syndrome" when writing SPOs.

If a phrase used for the criterion component is appropriate in that it communicates the desired thought, then use that phrase as many times as needed. Use the phrase a hundred times if applicable. When writers of SPOs try to use a variety of words/phrases to describe the desired proficiency level of the learner, problems occur. Many times, the performance listed in the criterion component doesn't match that in the performance component. To prevent communication problems, don't try to be "creative" when writing the criterion components for your objectives. Leave sportswriting composition techniques to the employed sportswriters.

One has only to read the sports pages of the daily newspaper, or listen to the evening news on TV, to be reminded of the "correct" way to report results of athletic contests. For every contest between two teams, a different adjective is used to describe the results: Team A *squeaked by* Team B; C *overwhelmed* D; E *trounced* F; Team G *barely made it past* the aggressive strength of H; I *beat* J by a wide margin; and K *eliminated* L from the running. **All writers told the same message: one team beat the other.**

To avoid being tempted to be a "sportswriter" when developing your SPOs, you may want to consider a few phrases for your criterion component—phrases or wording that will be appropriate for many objectives. You won't be tempted to be a "creative writer"—only a writer that communicates effectively, quickly, and accurately.

Many objectives in the cognitive domain require the learner to explain his/her understanding of a concept, or process, or terminology. Consider the following as a generic criterion:

Explanation should agree with discussion in class and recorded in student notebook.

This is an appropriate component to use in many cognitive domain objectives, for these reasons:

- The criterion or standard (i.e., "How good do I have to do it?") is readily available to anyone—teacher, substitute teacher, student, parent, supervisor, etc.
- The criterion or standard is specific enough in that it applies to any teacher, any class, any student, any school—whatever is taught in a particular class. (After all, these are your students being assessed on what you taught them.)
- By including "as recorded in the student notebook," it keeps everyone "honest." Students can't say, "You didn't cover that in class!!" The standard forces the teacher to be sure specifics are taught and recorded in notebooks. Help is also provided for the substitute teacher.
- Also, parents can't accuse the teacher of "testing on something you never taught my kid."

For many psychomotor-domain competencies and/or builders, the following standard is appropriate: *All items on the performance assessment must be rated yes (or acceptable).*

13. *As long as I have the competency written into a terminal student performance objective, I really don't need the competency builders converted to objectives.*

False. One suggestion you might consider as you think about the relationship between a competency and its objective, and a builder and its objective: think of the student performance objectives (constructed of the competency builders) as basically **enabling** objectives. The competency builders (and the objectives) enable a learner to achieve the terminal behavior—the performance described in the competency. When the learner has become proficient or competent in all of the competency builders (according to the student performance objectives), he/she automatically is competent in the competency (or terminal/student performance objective). Competency builders **enable** the learner to perform the terminal behavior—the performance in the competency statement.

The following example of SPOs is for a competency and its builders.

Unit 6 Equipment Maintenance

COMPETENCY/Terminal Performance Objective:

6.1 **Service wheels and tires** *of selected turf and landscape equipment* according to manufacturer's specifications.

COMPETENCY BUILDERS/Student Performance Objectives:

6.1.1 **Follow general safety precautions** *when servicing wheels and tires of given turf and landscape equipment.* No injury to individuals and no damage to equipment shall occur.

6.1.2 **Check tire pressure** *on given turf and landscape equipment using the school's tire gauge.* Pressure reading should match that of the instructor's.

6.1.3 **Inflate tires** *of given turf and landscape equipment using school's air compressor and tire gauge.* Tire pressure should be within one pound of manufacturer's recommendation.

6.1.4 **Check and tighten lug bolts** *of given turf and landscape equipment using school's tools.* Tightness should match that recommended by the manufacturer.

6.1.5 **Remove and replace flat tires** *on selected turf and landscape equipment using school's tools.* You will be expected to follow recommendations listed in the operator's manual concerning tire maintenance for the piece of equipment.

6.1.6 **Visually inspect tires** *on given turf and landscape equipment.* Damage and/or defects should be detected with 100% accuracy.

6.1.7 **Troubleshoot problems** *connected with wheels and tires on selected turf and landscape equipment.* All items on the troubleshooting performance assessment shall be marked yes.

(Source: Tom Luellen, Horticulture Instructor, Upper Valley Joint Vocational School, Piqua, Ohio.)

14. *To adjust my performance objectives to account for different ability levels of my classes, all I need to do is to change the criterion component.*

False. I would recommend that you consider changing the conditions component first. Then, if that is not sufficient, make adjustments in the criterion component.

Note the change in the conditions component (in italics) in the second version of the following objective. The required performance (make biscuits) remains the same, as does the expected level of performance (all items on the performance assessment should be rated acceptable). We only change the assessment scenario when we evaluate the students on their biscuit-making skills.

> ***Version One:*** **Make biscuits** *when given the recipe, the necessary ingredients, equipment, and the number of people to be served.* All items on the performance assessment should be rated acceptable.

Suppose that you get a group of students (or a large percentage of your group) who have problems with reading. In the next version of the objective, note how we've changed the conditions component to allow for this reading level. However, we've kept the same performance and criterion components.

> ***Version Two:*** **Make biscuits** *when given the recipe in writing and on audiotape, the necessary ingredients, equipment, and the number of people to be served.* All items on the performance assessment should be rated acceptable.

Summary of Techniques for Writing Student Performance Objectives

1. Write **student** performance objectives, not teacher performance objectives.
2. Write as the student thinks, not as the teacher thinks.
3. Begin student performance objectives with the performance component.
4. Write for the assessment situation.
5. Avoid "sportswriters' syndrome."
6. Use a checklist for the criterion component whenever appropriate. A checklist works best for a psychomotor-domain skill.
7. Be alert to the proper placement of a modifier (criterion).
8. Use several sentences. No need to "cram" all words into one sentence.
9. Have performance agreement between competency and standard of performance. Sometimes, using a percentage as the measure of competency is neither realistic nor an authentic assessment of the desired learning. A "percentage criterion" is many times a lazy way of writing the criterion component of the objectives.
10. Change the conditions component before you change the criterion component.

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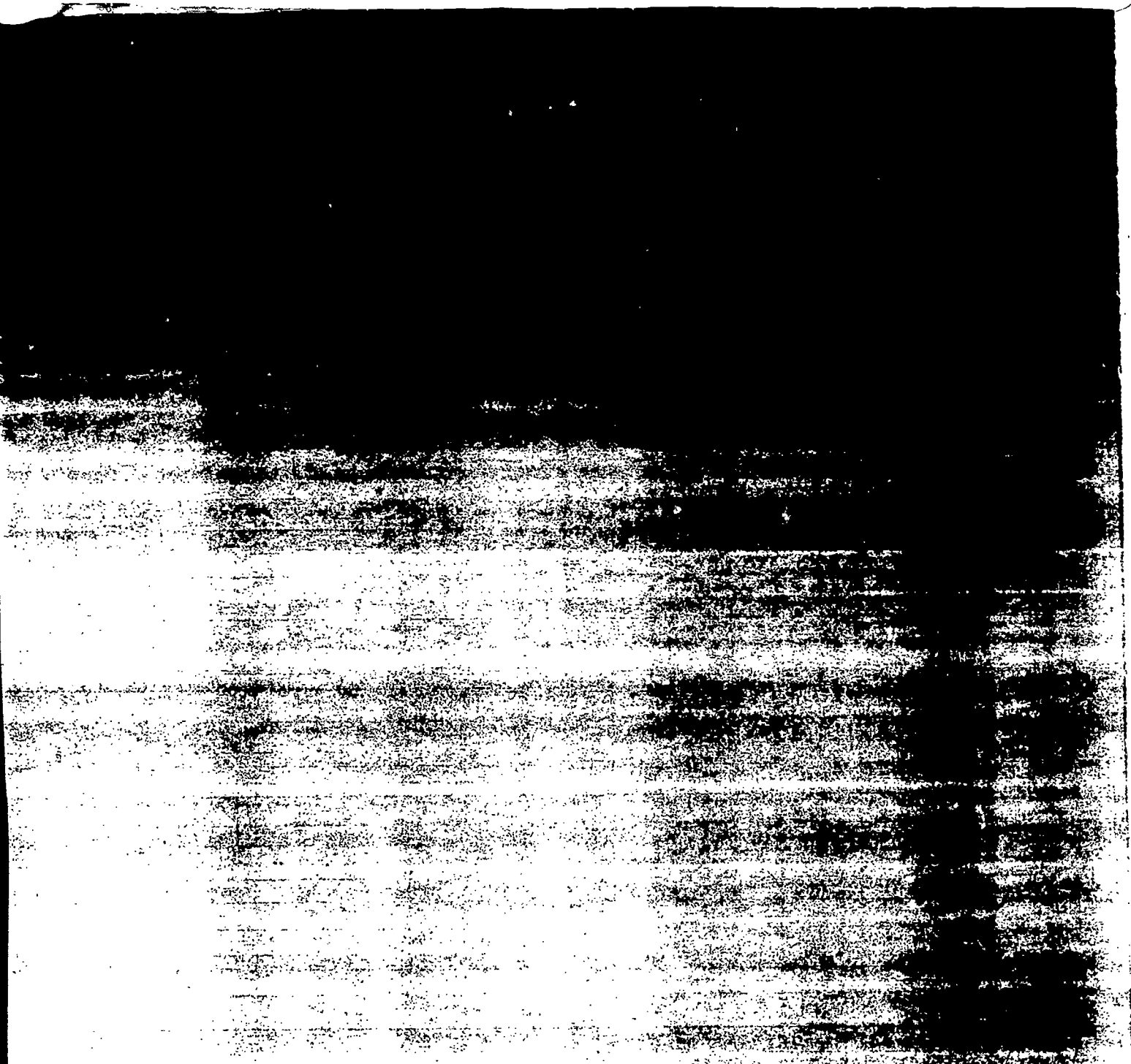

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