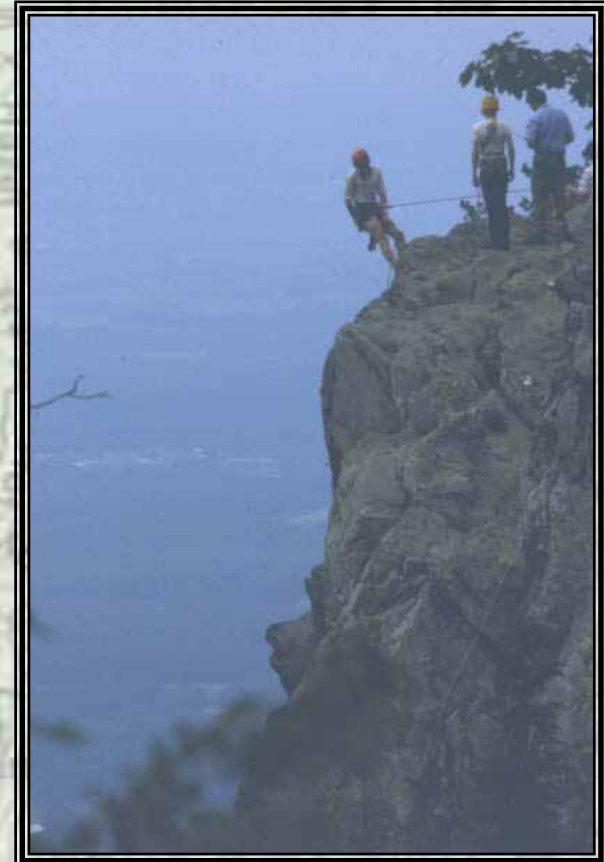
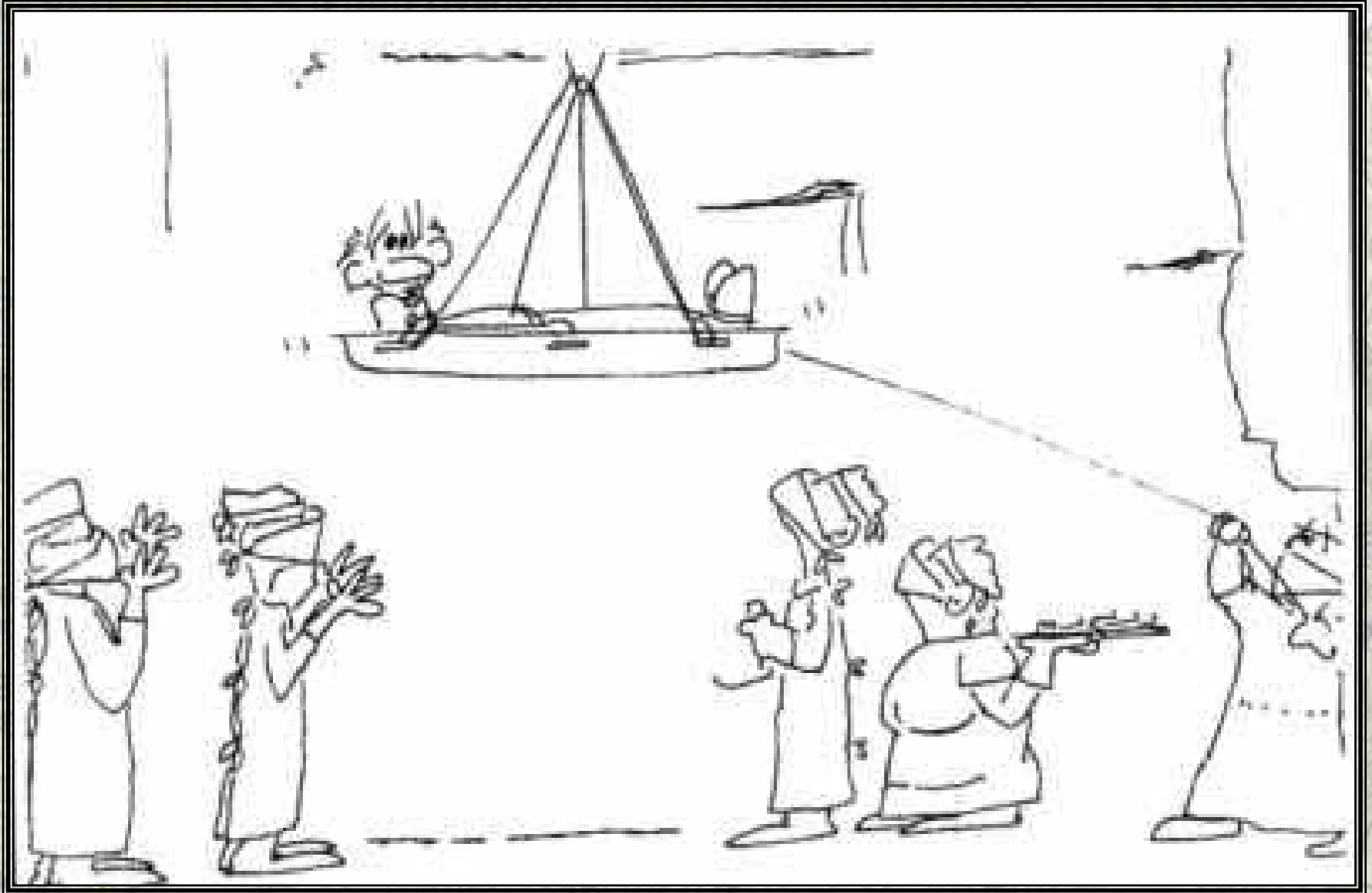




Educational Objectives and Performance Standards for Wilderness Medicine . . .



... a Serious Attempt at Rigor.





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- Eastern Region, National Cave Rescue Commission
- Department of Emergency Medicine, Mercy Hospital of Pittsburgh
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WEMSI

**Wilderness EMS
Institute**

www.wemsi.org





another
Complex
Subject . . .





Overview

- The definitive references
- Goals vs. Objectives
- Objectives = Performance Standards
- Types of Objectives
 - Cognitive
 - Psychomotor
 - Affective
- Defining “Objective”
- Building Objectives
- Objectives vs. Descriptions
- Bad vs. good words
- Characteristics of good objectives
- Defining conditions
- Criteria for success



Educational Experts

- In a recent study, reported on National Public Radio last week, high-school teachers in one major metropolitan area took a 10th-grade test on reading and writing.
- More than half flunked.
- So when I went looking for academic expertise on objectives . . .



**It was not
very
successful.**





The Definitive References

- Almost all academic articles on educational objectives, and experts in the field, reference two authors:
 - **Mager, Robert F.**
Preparing Instructional Objectives
(1962)
 - **Bloom, Benjamin S.**
Taxonomy of Educational Objectives
(1956)

A 60-page,
1/2" thick,
programmed-
learning
booklet.

PREPARING INSTRUCTIONAL OBJECTIVES

ROBERT F. MAGER

A book for teachers and student
teachers... for anyone interested in
transmitting skills and knowledge
to others.

008.5



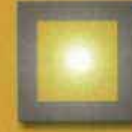
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Preparing Instructional Objectives

A critical tool in the development
of effective instruction

Robert F. Mager

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If you have been well steeped in behavior theory, you will see that what are being referred to here as "conditions" are more accurately described as behavior descriptions. Certainly, "calculating with a slide rule" is different behavior than "calculating with an adding machine." Similarly, "solving an equation" involves different behaviors when done with the aid of references than when done without the aid of references.

Though I will admit that all observable activity of an organism can be called behavior, and though I will admit the technical accuracy of a statement such as "writing with a long pencil involves different behavior than writing with a stubby pencil." I maintain that the difference hinders more than it helps insofar as the preparation of instructional objectives is concerned; for if you set out to define all aspects of the behavior you intend to develop, you would soon be caught in a quagmire of irrelevancies.

To help identify those aspects of terminal behavior worth mentioning, you should describe enough conditions for the objective to imply clearly the kind of test items appropriate for sampling the behavior you are interested in developing.

Here are some questions you can ask yourself about your objectives as a guide to identifying important aspects of the terminal behaviors that you wish to develop:

1. What will the learner be provided?
2. What will the learner be denied?
3. What are the conditions under which you will expect the terminal behavior to occur?
4. Are there any skills that you are specifically NOT trying to develop? Does the objective exclude such skills?

To see if I have made myself clear, look at the objective below and turn to the page indicated under the part of the sentence you think tells something about the conditions under which the terminal behavior is to occur.

Given a list of factors leading to significant historical events,

(Turn to page 28.)

the learner must be able to select at least five factors con-

(Turn to page 29.)

tributing to the depression of 1929.



Bloom's Taxonomy

3 1735 023 504 529

PROPERTY OF THE DEPARTMENT OF
EDUCATION

XONOMY

250

OF

CATIONAL OBJECTIVES

Classification of Educational Goals

BOOK I : COGNITIVE DOMAIN

by

A Committee of College
and University Examiners

BENJAMIN S. BLOOM, Editor

Engelhart

Walker H. Hill

J. Furst

David R. Krathwohl

DAVID MCKAY COMPANY, INC.

NEW YORK

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c.5



Educational Objectives = Performance Standards

- Educational **GOALS** are broad and general

“Understand the physiology of accidental hypothermia”

- Educational (instructional) **OBJECTIVES** are testable behavioral performance standards.



Types of Objectives

- Cognitive: test knowledge
“From a list of potential answers, correctly identify the major expected response of the kidneys to cold stress.”
- Psychomotor: test skills
“Given a HeatPac hypothermia rewarming device, an alkaline D-cell, and a fused HeatPac charcoal element, have the unit assembled and functioning properly in under one minute.
- Affective: test emotional appreciation (?)



Making Better, More Specific Objectives?

- “Understand how to operate the HeatPac rewarming device.”
- “Really understand how to operate the HeatPac rewarming device.”
- “Really, *really*, understand how to operate the HeatPac rewarming device.”



Mager's Preface:





Mager's Objectives

- Given one or more instructional objectives, you will be able to select those stated in performance terms.
- Given a well-written instructional objective, you will be able to identify the portion of it that defines minimum acceptable performance.
- Given one or more performance (test) items, you will be able to select those appropriate to the evaluation of the objectives.



What is an objective?

- “...an *intent* communicated by a statement describing a proposed change in a learner.”
- “...a meaningfully stated objective is one that succeeds in communicating to the reader the writer’s instructional intent.”



Building an Objective

- **Identify terminal behavior**
- **Describe the important conditions**
- **Specify the criteria of acceptable performance**



Objective or Description?

- *A general survey of the organization and administration of caving trips, with emphasis on methods of developing the caving trip as an integral part of the outdoor education program. Includes functions, organization, services, equipment, and materials.*



Which is an objective?

- *To be able to explain the principles for developing vertical ropework safety consciousness in outdoor experiential education.*
- *Discusse principles, techniques and procedures for developing vertical ropework safety consciousness in outdoor experiential education.*



Which is an objective?

- *To be able to explain the principles for developing vertical ropework safety consciousness in outdoor experiential education.*
- *Discusse principles, techniques and procedures for developing vertical ropework safety consciousness in outdoor experiential education.*

No measurable outcome



Bad vs. Good Words

- to know
- to understand
- to appreciate
- to fully appreciate
- to grasp the significance of
- to enjoy
- to believe
- to have faith in
- to write
- to recite
- to identify
- to differentiate
- to solve
- to construct
- to list
- to compare
- to contrast



Bad vs. Good Words

- to know
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- to solve
- to construct
- to list
- to compare
- to contrast



Which is in Performance Terms?

- To be able to write a summary of the advantages and disadvantages of using the Mattson Consensus Method in search strategy planning.
- To understand the theory of search.
- To know the standard climbing calls as adapted for semitechnical litter evacuations.



Which is in Performance Terms?

- To be able to write a summary of the advantages and disadvantages of using the Mattson Consensus Method in search strategy planning.
- To understand the theory of search.
- To know the and climbing calls as adapted for physical litter evacuations.



Characteristics of Good Objectives:

- *Outcome* rather than content.
- Behavioral or performance terms: *doing*.
- A series of specific statements.
- The best objective is one that best communicates the instructional intent of the person selecting the objective.



Defining Conditions:

- Given a problem of the following class ...
- Given a list of ...
- Given any reference of the learner's choice ...
- Given a matrix of intercorrelations ...
- Given a standard set of tools ...
- Given a properly functioning ...
- Without the aid of references ...
- Without the aid of calculator ...
- Without the aid of tools ...



Criteria for Success:

- ... within five minutes.
- ... with no more than three mistakes.
- ... three times without error.
- ... answer 80% correctly.
- ... acceptable performance is to be within 50 meters of the correct location.
- ... correct within 10 degrees.



Again:

- **Identify terminal behavior**
- **Describe the important conditions**
- **Specify the criteria of acceptable performance**



Summary

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Web site resources

www.conovers.org

**Wilderness EMS
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www.wemsi.org





If Your Brain Isn't Overloaded Already . . . Questions?



“Curse you, Keith Conover!”: Self-Portrait of Allegheny Mountain Rescue Group Medic Mike Yee

The End

