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ABSTRACT
        The use of behavioral objectives is challenged on
three bases: feasibility, utility, and advisability. Behavioral
objectives, however, are useful in teaching speech communication.
They allow the teacher to start to pinpoint the items the student
needs to practice in order to improve. If students are trained to
decide which behaviors they wish to elicit from their audience and to
read listener feedback, they should be better able to adjust their
communication in the direction of getting the response he wants. This
training should help the student focus on the message receiver. Using
behavioral objectives means creating criteria of competency. Until
experimental efforts yield empirical data needed to establish these,
carefully thought-out subjective judgments must be used. If
behavioral objectives have been established, greater flexibility in
choosing methods to reach those objectives will be allowed. (JK)

Behavioral Objectives for Speech-Communication:
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Arlie Muller Parks

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Abstract

This paper has two purposes: (1) to summarize the primary arguments against the use of behavioral objectives, and (2) to scrutinize selected assertions which are most relevant to the speech communication field and to analyze their implications.

For the purposes of this paper the objections to behavioral objectives have been placed into three broad categories. Behavioral objectives are challenged on the grounds of feasibility, utility, and advisability. Each category of objection is refuted.

The last half of the paper contains suggestions for the use of behavioral objectives in the field of speech communication. Some implications and advantages of their use are discussed.

Arlie Muller Parks

Behavioral Objectives for Speech - Communication:
Panacea, Pandemonium, or . . .

Arlie Muller Parks

In the last decade the literature in the field of education has indicated
a growing interest in the use of behavioral objectives. Today some state
education departments,[1] and the Middlestates Evaluation Committee[2] are re-
quiring that public schools and state colleges rewrite their courses of study
so that the objectives are stated in terms of the performance expected or re-
quired of the student. Recently in the literature of the field, a number of
arguments have appeared challenging the use and value of behaviorally stated
objectives.[3] Members of the profession concerned with speech communica-
tion pedagogy would do well to be cognizant of the objections to the use of
behavioral objectives. Furthermore, it would be of benefit to speech teachers
to analyze and evaluate the implications of the indictments as they relate to the
subject matter, goals, and philosophy of the discipline.

This paper has two purposes: (1) to summarize the primary arguments
against the use of behavioral objectives, and (2) to scrutinize selected asser-
tions which are most relevant to the speech communication field and to analyze
their implications.

Behavioral Objectives: Arguments and Rebuttals

For the purpose of expediting analysis, and at the risk of over simplifying
the matter, the objections can be placed into three broad categories. The use

of behavioral objectives is challenged on the grounds of feasibility, utility, and
advisability.

The Feasibility Factor

Several skeptics have raised objections to the use of behavioral objectives
on the grounds that they aren't workable. One argument posed is that writing
behavioral objectives is too difficult.[4] Secondly, some question ▬▬▬▬ what
is meant by students' behavior[5] and, therefore, claim it is impossible to be
specific enough in stating such objectives.[6] A related objection is as follows:
even if one can identify desired behaviors it is not possible to state them at an
appropriate level of competency or skill achievement.[7] Finally, critics argue
that it is difficult to express all the important outcomes of education because of
the difficulty involved in defining and measuring these "behaviors."[8]

Rebuttals, based on logic, to most of these indictments can be found in a
number of books and articles.[9] Empirical data refuting the arguments in the
feasibility category may be gleaned from such observable data as the behavioral
objectives found in the works of Krathwohl,[10] Bloom,[11] Mager,[12] Popham,[13]
Kibler,[14] Block,[15] in the American Educational Theatre Association's Course of
Study in Secondary School Theatre Arts,[16] and in the ten courses of study developed
as a result of the three year Pennsylvania E.S.E.A. Title III project, "A Demon-
stration Project for Speech Education."[17] Behavioral objectives not only can be
be stated, but they are being formulated and used in teaching.

The Value Variance

Critics who question the use of behavioral objectives also argue that even
if it is possible to write them, it is not advantageous to do so. They feel behavioral

objectives are not beneficial to educators for the following reasons: (1) They
are of little significance to the planning procedures and materials the teacher
will use.[18] (2) The behaviors specified aren't the "real" objectives the teacher
is working toward.[19] (3) There is a likelihood that trivial learner behaviors
will be stressed because trivial behaviors are easier to state in behavioral terms
than are the more important educational outcomes.[20] The significance of speci-
fying behaviors when one is not sure which behaviors will lead to successful or
unsuccessful attempts at communication has also been questioned.[21] Some be-
lieve that such specific prespecified objectives might render the teacher incapable
of noticing unexpected important objectives which might arise during a lesson.[22]
These critics fear that the use of behavioral objecties may hinder the teacher in
her attempts to achieve these important unexpected objectives.[23]

The research data supporting the general value of behavioral objectives in-
clude the Miles, Kibler, and Pettigrew (1967) study[24] which indicates higher
test scores for students who were given study questions prior to doing reading
assignments. Similar results are indicated in the Michael and Maccoby (1953)
study[25] on the use of practice questions in connection with using films as an in-
structional medium. Schuck (1970) found that students improved their retention of
information when set induction was utilized in the teaching of a science unit.[26]
Peeck's study (1970) supports the previous studies indicating that the use of study
questions before the learning experience increased retention of the material. More-
over, his study showed that the use of behavioral objectives diminished the reten-
tion of material which was irrelevant to the objectives.[27] These studies support

the postulate that we can increase learning by giving a pupil a clear indication of _what_ we want him to learn and _how_ his knowledge will be evaluated.

The Suitability Syndrome

The largest number of objections, and the weakest attempts at protesting the use of performance objectives, seems to fall into the suitability syndrome category. Dissenters _may_ yield to the conceivability of formulating behavioral objectives. They _may_ even waive their objections regarding the profitability of writing behaviorally stated objectives, and yet _still_ argue their use on the grounds of desirability. Doubters claim that behaviorally stated objectives would make educational objectives seem innocuous.[28] They also fear that since measurability implies accountability this innovation may lead to evaluating teachers on the basis of how much pupils learn.[29] Others contend that using behavioral objectives is not advantageous because it is undemocratic[30] and dehumanizing[31] to plan pupil outcomes. The argument continues that the use of these objectives is unrealistic because teachers don't plan that carefully anyway.[32] Futhermore, they assert that behavioral objectives are not appropriate for education; they imply that such objectives belong in the hazy realm of training.[33] Skeptics claim that teachers are not supposed to be shaping students' behavior.[34] Moreover, they contend that using behavioral objectives would preclude creativity and cause rigidness in teaching.[35] Teaching students to respond effectively to unique problems not previously encountered, they feel, is likewise inhibited by using performance objectives.[36] Dissenters further argue that by concentrating on behaviorally stated objectives the achievement of educational outcomes not directly related to student learning is limited.[37] Finally, since there is no guarantee that

a well stated behavioral objective would necessarily be a valuable objective, skeptics reject them and imply that they are no more desirable than other objectives.[38]

A perusal of several studies seems to support the appropriateness of using behavioral objectives in education. McNeil's study (1967) of the effect of using behavioral objectives to specify learning outcomes, and the effect of grading student teachers on the basis of their success in helping learners achieve said outcomes, indicates that the students not only met the behaviorally stated objectives but also increased their achievement ". . . in a range of desirable directions."[39] McNeil further found that the student teachers preferred to be judged on the basis of how successful they were in getting their pupils to meet the specified behavioral objectives.[40]

We all know all students do not learn the same way nor at the same rate,[41] yet we tend to teach by "covering" a certain amount of material in one specific manner and within a somewhat arbitrary length of time. By making use of behavioral objectives and focusing on a variety of possible behaviors which will indicate whether the student has achieved "learning," we would be better able to adjust our teaching strategies so that more students would learn in a shorter length of time.

The Behr (1967) study indicates that instructional materials can be designed to complement students' abilities so that their learning efforts are maximized and the time spent trying to achieve the goal is minimized.[42] Similar results were noted by Davis and Anthony (1967).[43] Kim's study (1969) indicates that for learners with below average I.Q. the use of behavioral objectives, review questions, and remedial programed instruction can increase their ability to master objectives .

far beyond the level one would ordinarily suspect.[44] Moreover, a University

of Minnesota study indicates that teachers who are able to be more flexible

in their teaching methods seem to produce students who learn more.[45] Be-

havioral objectives lend themselves to planning for flexibility in the selection

and use of teaching materials, procedures, and strategies. If behavioral ob-

jectives can be used to increase student learning it seems obvious that their

use is appropriate. If indeed, the purpose of education is to effect a favorable

change in the learner then not only are they appropriate, but necessary! This

sample of studies should be more than ample to provide motivation for the

doubter to return to his "think tank" to devise stronger arguments against the

appropriateness of behavioral objectives.

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Issues Related to Speech - Communication and the
Use of Behavioral Objectives

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Operationalizing Objectives

Speech teachers will concede that it is difficult to express and define all

the important outcomes of education; this, however, does not mean that one

should give up trying to define and measure the outcomes of an educational ex-

perience. One can learn much about a process by isolating and measuring known

variables. As this is accomplished additional outcomes may be observed or pre-

viously identified outcomes may be perceived in a new light. In a given lesson

the teacher is most concerned with specified outcomes. If one does not get the

results planned for, a re-evaluation of the lesson is essential to determine if

the behaviors sought are possible, measurable, valuable, etc. The teacher

may also wish to analyze the behaviors elicited in terms of what they indicate about the lesson. It is possible that something "new" may have been "discovered" through serendipity. At any rate, the use of behavioral objectives does not suggest that one somehow disallows results of education which one cannot define nor measure. Indeed, that would be somewhat analogous to forbidding the tree to fall in the forest until one could find a way to detect if it makes a sound when nobody is there!

If the objective is "To make the student become a better speaker" the teacher has a major task before her. How will she know when the student is a better speaker? What does one tell the student after his communication? How will the student know what to do to become a better speaker? What is a better speaker? On the other hand, if one uses behaviorally stated objectives which specify the behaviors the student must exhibit in order to meet the objective, the teacher can begin to pin point the items the student needs to practice in order to improve.

Assume that the objective is,

> The student will deliver an effective five minute talk
> on a controversial subject of his choice to an audience
> of peers. The criterion for effectiveness will be a
> shift of opinion toward agreement with the speaker by
> at least 50% of the audience as indicated by a pre-
> and post-attitude test.

Now one has a firm basis for judging whether the student is becoming a "better" speaker. The teacher may have the student attempt to meet the objective as many times as necessary until he can do so successfully. Once prerequisite tasks (behaviors the student must master so that he will be able to meet this objective)

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have been determined the teacher can decide which behaviors the student needs

to concentrate on. When terms such as "better," "effective," "good," etc.,

can be operationally defined, so their meaning is clear to the teacher and the

student, teachers can begin to determine for each student what he must do to

achieve "effectiveness," without becoming a carbon copy of some "ideal speaker."

Speech-communication teachers often claim that one of their goals is to

provide a speaker with fairly predictable means of being assured that his mes-

sages will produce the intended response. By adapting the behavioral objective

concept to the communication process the speaker should be better equipped to

determine what strategies one must use to maximize the possibility of obtaining

the desired response from one's listener. By training students to carefully de-

cide which behaviors they wish to elicit, and by training them to read listener

feedback, the student should be better able to adjust his communication in the

direction of getting the response he wants. This training should help the student

to focus on the message receiver -- just as the behavioral objective user focuses

on the student. Indeed, there is a similarity between the goals of communication

and the goals of the teacher who uses behaviorally stated objectives.

Creating Criteria

The validity of the argument that one should not state objectives in terms of

student behaviors because they cannot always be stated to include appropriate

levels of competency or skill achievement, is also of concern in the field of speech

communication. For example, speech teachers often have difficulty determining the

effectiveness of an information speech. In other words, what is the exact percent-

age of the audience which should be able to explain the steps involved in a complex process described by a student speaker? While determining the level of competency for an objective is not easy, neither is it impossible to develop a workable criterion even though it may be arrived at through trial and error. Having a clear idea of the terminal behaviors the student is to perform is the first step in arriving at appropriate levels of proficiency for each behavioral objective. Needless to say, this attempt will yield more realistic expected levels of competency if the teacher has completed a task analysis of all behaviors relevant to the desired terminal behavior. Each objective must be so ordered that every objective the student completes prepares him to perform the next objective armed with the necessary prerequisite skills.

General acceptance and usage of behavioral objectives in the discipline will eventually give rise to new experimental efforts by speech communication leaders. Such research will undoubtedly yield the empirical data needed to establish appropriate levels of performance relevant to specific behaviroal objectives. Until then the speech communication teacher may choose from several alternative methods for establishing the level of competency at which the student must perform: (1) Criteria may be based on levels of competency achieved by previous students' performances.[46] (2) The teacher may determine standards rather arbitrarily, based on her experience and knowledge of the skills or information needed to achieve subsequent objectives.[47] (3) Levels of competency may be based on the teacher's value judgments regarding the information or skills generally needed by the student.[48] (4) A team of ". . . teachers working independently can reach a high level of agreement on the hierarchy of outcomes contained in units of learning material"[49]

even though the teachers have had little practice doing this. Carefully thought out subjective judgments arrived at in conjunction with other speech communication teachers should result in reasonably useful standards. The teacher may wish to adjust these standards as she acquires experience and new data.

Recent data indicate that when behavioral objectives are used in conjunction with other techniques to achieve mastery learning[50] it is not unreasonable to expect the student to achieve a level of 80 to 85% competency in the information and skills for each objective.[51] At present it would seem that tentative criteria based on any of the above would be preferable to avoiding the issue of implementing behavioral objectives in the speech communication training.

Planning Power

Perhaps of special interest to speech communication teachers is the argument that behavioral objectives are of little value because they have little relationship to the materials one uses to help the student achieve objectives, and they are of little value to planning procedures. This argument can be refuted with such studies as Behr (1967),[52] and Davis (1967)[53] which have been discussed earlier in this paper. Airasian (1969) also found that certain techniques tend to increase student learning.[54] Ebel is right when he says, ". . . It is important for the curriculum builder, the textbook writer, the teacher, and the student to think hard about their purposes, about the objectives they seek to achieve."[55] Making correct choices in the materials and teaching strategies one uses to help learners achieve objectives is _very_ important. The more precise the objective, the easier it is to select appropriate materials and strategies.

When the behaviors the student is to exhibit are stated clearly teachers no longer need to insist that each student perform the same tasks, exercises, or speaking assignments. Once the teacher can state the desired student be- haviors she can select and prescribe the assignment(s) most closely related to. the abilities, present and future needs, and interests of the student. Moreover, her job of sequencing the tasks to maximize efficient learning is facilitated by using behavioral objectives. It would seem that there is a big difference be- tween the teacher planning a course in communication in which everyone gives an informative speech, a persuasive speech, an oral interpretation, etc., and the teacher planning specific behavioral objectives the student must meet. In the latter course some students might be giving speeches and others taking part in debates in order to meet the same objective. Indeed, some students may al- ready have met the objective during the preassessment exercise and therefore be free to pursue the next objective.

The aforementioned studies indicate that students do not all learn the same way; whether the objective is "To have students give six speeches." or,

> "Given oral communication interaction with classmates, the
> student will appear more confident, relaxed, and fluent to
> his audience, as judged by at least 60% of the audience's
> responses on pre- and post-evaluation rating sheets,"

or,

> "Given:
> (1) oral communication interaction with his classmates;
> (2) class discussion, readings, and lecture material on
>   effective communication procedures;
>   and
> (3) practice,
> the student will deliver a ten minute oral message in which
> he explains a principle, idea, or process, heretofore pre-
> tested to be unclear to his audience. Successful achieve-
> ment of this objective will be judged by a post-test on
> which 90% or better is scored by at least 70% of the audience,"

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certainly should make a difference in the kinds of teaching strategies, materials, and procedures the teacher employs. As the Hayworth study (1940, on the effectiveness of teaching speech by emphasizing delivery vs content) indicates student improvement will occur most in the area stressed. One can't expect to concentrate on the student being able to stand tall and keep talking for x number of minutes if what really is desired is to have him be able to do something like the last behavioral objective. ". . . We know from so much of behavioral research, the more closely the criterion measure which one uses to test results approaches the method by which the desired behavior was learned, the better the results will be."[57]

In summary, the use of behavioral objectives in speech communication classes should help teachers to focus on those communication behaviors which research indicates are desirable. If speech communication teachers select and develop behavioral objectives based on research findings, construct task analyses, and plan learning strategies accordingly, ~~they~~ will be more efficient and effective in helping students improve in their oral communication ability.

The field of speech communication should adapt easily to the use of behavioral objectives for at least two reasons. 1) Speech teachers, by the nature of the discipline, are committed to the shaping and reshaping of communication behaviors. 2) Since speech communication ability and teaching effectiveness are related,[58] both the areas of speech communication pedagogy and training should derive success from the use of behavioral objectives. Whether or not these assumptions are valid can best be determined by speech teachers testing them in the classroom.

Endnotes

Arlie Muller Parks is an Associate Professor of Speech at Mansfield State College, Pa. Ms. Parks is presently on sabbatical leave at Florida State University. This article was written while she was enrolled in a course under the direction of Dr. Robert J. Kibler, her major professor.

[1]Commonwealth of Pennsylvania, Department of Education, Bureau of Academic Services. Teacher Education Memorandum No. 3, Aug., 1971, p. 1.

[2]Kirkwood, Robert. Executive Secretary, Commission on Higher Education. Letter to the present writer, dated Oct. 8, 1971.

[3]Ebel, Robert, "Behavioral Objectives: A Close Look," Phi Delta Kappan, Nov., 1970, 171-173, (reference from a reprint), p. 2; Popham, W. James, "Probing the Validity of Arguments Against Behavioral Goals," in Robert J. Kibler, Larry Barker, and David M. es, Behavioral Objectives and Instruction, (Boston: Allyn and Bacon, Inc., 1970), p. 120; Shoemaker, David, "Criterion - Referenced Measurements Revisited", Educational Technology, March 1971, pp. 61-62.

[4]Popham, p. 122.

[5]Ebel, p. 2.

[6]Ebel, p. 3.

[7]Ibid.

[8]Kibler, Robert J., Larry L. Barker and David T. Miles, Behavioral Objectives and Instruction, (Boston: Allyn and Bacon, 1970), p. 23; Popham, p. 120; Johnson, Arlee, "Issue of Educational Responsibility - Behavioral Objectives," an unpublished paper delivered at the Speech Association of the Eastern States Convention, (New York: 1971), 7.

[9]Kibler, Barker and Miles, pp. 105-109, 23-27; Johnson, pp. 6-9; Kibler, Robert, and Larry Barker, "Stating Objectives in Speech Communication," The Bulletin of the National Association of Secondary School Principals, 54, No. 350 (1970), pp. 30-39; Popham, pp. 115-123.

[10]Krathwohl, David, Benjamin Bloom, and Bertram Masia, Taxonomy of Educational Objectives, the Classification of Educational Goals, Handbook II: Affective Domain, (New York: David McKay Co., Inc., 1964.

[11]Benjamin S. Bloom, (ed.) et. al., Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook I: Cognitive Domain, (New York: Longmans, Green, and Co., 1960.

[12]Mager, Robert F., Preparing Instructional Objectives, (Palo Alto, Calif.: Fearon Pub., 1962).

[13]Popham, James W., Instructor's Manual: Educational Objectives: A Film Strip-tape Program, (Vincet Associates, Los Angeles, Calif., 1967).

[14]Kibler, Barker, and Miles.

[15] James Block, (ed.) Mastery Learning: Theory and Practice, N. Y.: Holt, Rinehart and Winston, Inc., 1971), pp. 92-97; Block, James, "Criterion-Referenced Measurements: Potential," School Review, Vol. 79, #2, (Feb., 1971), pp. 289-297.

[16] American Educational Theatre Association, Course of Study in Secondary School Theatre Arts, (Wash., D.C.: AETA, 1968).

[17] Write for copies of the 10 courses of study for high school speech classes: Dr. Donald Ecroyd, E.S.E.A. title III Speech Project Director, Dept. of Communication, Temple University, Philadelphia, Pa.

[18] Popham, "Probing," p. 120.

[19] Ebel, p. 2.

[20] Kibler, Barker, and Miles, p. 24; Popham, "Probing," p. 116.

[21] Kibler, Robert J., Larry L. Barker, and Donald J. Cegala, "A Rationale for using Behavioral Objectives in Speech-Communication Instruction." The Speech Teacher, Vol. XIX, No. 4, Nov. 1970, (references taken from a reprint), p. 10.

[22] Popham, "Probing," p. 122.

[23] Ibid.

[24] Miles, David, Robert Kibler and L. Eudora Pettigrew, "The Effects of Study Questions on College Students' Test Performances," Psychology in the Schools, 4, No. 1 (1967), pp. 25-26.

[25] Michael, Donald, and Nathan Maccoby, "Factors Influencing Verbal Learning from Films Under Varying Conditions of Audience Participation," Journal of Experimental Psychology, 46, #6 (1953), pp. 411-418.

[26] Schuck, Robert, "A Determination of the Influence of Set Induction Upon Pupil Perception of Effective Teaching, Achievement, and Retention in a Unit of Respiration in the BSCS Curricular," Psychology in the Schools, XII, #3, (1970), pp. 228, 231.

[27] Peeck, J., "Effect of Pre-questions on Delayed Retention of Prose Materials," Jr. of Educational Psychology, 61, #3 (1970), pp. 241-246.

[28] Popham, "Probing," p. 120.

[29] Ibid., p. 121.

[30] Ibid., p. 119.

[31] Ibid.

[32] Ibid.

[33] Ebel, p. 3.

[34] Ebel, p. 4.

[35] Ebel, p. 3.

[36] Ibid.

[37] Popham, "Probing," p. 118.

[38]Ebel, p. 3.

[39]McNeil, John, "Concometants cf Using Behavioral Objectives in the Assessment of Teacher Effectiveness," _The Journal of Experimental Education_, 36, #1 (1967), pp. 69-74.

[40]_Ibid._, p. 71.

[41]Block, _Mastery Learning_, pp. 92-97.

[42]Behr, Merlyn, "A Study of Interactions between 'Structure-of-Intellect' Factors and Two Methods of Presenting Concepts of Modulus Seven Arithmetic," Diss. Florida State Univ., 1967. In James Block (ed.), _Mastery Learning_, (N.Y.: Holt Rinehart and Winston, 1971), pp. 102-103.

[43]Davis, John, (Jr.), "An Investigation of the Interaction of Certain Instructional Strategies with the Structure of Basic Mental Abilities in the Learning of Some Mathematical Operations," Diss. Florida State Univ., 1967, In Block (ed.), _Mastery Learning_, pp. 114-115; Anthony, Bobbie, "The Identification and Measurement of Classroom Environmental Process Variables Related to Academic Achievement," Diss. Univ. of Chicago, 1967, In Block(ed.), _Mastery Learning_, p. 100.

[44]Hognvon Kim, _et. al._, _A Study of the Bloom Strategies for Mastery Learning_, (Seoul: Korean Institute for Research in the Behavioral Sciences, 1969), in Block (ed.), _Mastery Learning_, pp. 123-124.

[45]Flanders, Ned A., "Some Relationships Among Teacher Influence, Pupil Attitude and Achievement," In Edmund J. Amidon and John B. Hough, (eds.), _Interaction Analysis: Theory Research and Application_ (Reading, Mass.: Addison-Wesley Pub.Co., 1967), p. 239.

[46]Bloom, Benjamin S., "Learning for Mastery," _UCLA Evaluation Comment_, Vol. 1 #2, May 1968.

[47]Garvin, Alfred, "The Applicability of Criterion-Referenced Measurement by Content Area and Level: In W. James Popham (ed.), _Criterion-Referenced Measurement_, (Englewood Cliffs, N.J.: Educational Technology Pub., 1971),(Reported in David Miles and Roger Robinson "Behavioral Objectives: An Even Closer Look," _Educational Technology_, June, 1971), p. 42.

[48]Miles, David T. and Roger E. Robinson, "Behavioral Objectives: An Even Closer Look," _Educational Technology_, June 1971, p. 42.

[49]Airasian, Peter W., "The Role of Evaluation in Mastery Learning," in Block (ed.), _Mastery Learning: Theory and Practice_, p. 82.

[50]See Block, (ed.), _Mastery Learning_.

[51]Block, James, "Operating Procedures for Mastery Learning," in Block, (ed.), _Mastery Learning_, p. 70.

[52]Behr, pp. 102-103.

[53]Davis, pp. 114-115.

[54]Airasian, Peter, "Formative Evaluation Instruments: A Construction and Validation of Tests to Evaluate Learning Over Short Time Periods," Diss. Univ. of Chicago, 1969, In Block, _Mastery Learning_, p. 99.

[55]Ebel, p. 4.

[56]Hayworth, Donald, "A Search for Facts on the Teaching of Public Speaking, II," Quarterly Journal of Speech, XXVI, (Feb., 1940), pp. 31-38, In Samuel L. Becker, "Research on Speech Pedagogy," Roger Nebergoll (ed.), Dimensions of Rhetorial Scholarship, (Norman, Okla.: Univ. of Oklahoma, 1963), p. 36.

[57]Becker, Samuel, "Research on Speech Pedagogy," in Roger Nebergoll (ed.), Dimensions of Rhetorial Scholarship, (Norman, Okla.: 1963), p. 36.

[58]McCord, William, "Speech Factors as Related to Teaching Efficiency," Speech Monographs, XI (1944), pp. 53-64, In Wayne Thompson, Quantitative Research in Public Address and Communication (New York: Random House, 1967), p. 159; Henrikson, Ernest, "Some Relations Between Personality, Speech Characteristics, and Teaching Effectiveness of College Teachers," Quarterly Journal of Speech, XVI, (Sept., 1949), in Wayne Thompson, p. 159; Huckelberry, Alan, "The Relationship Between Change in Speech Proficiency and Change in Student Teaching Proficiency," Speech Monographs, XVII, (Nov. 1950), pp. 378-389, In Wayne Thompson, p. 158.