# BEHAVIORAL OBJECTIVES: SOME PERSPECTIVE, PLEASE!

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*. . . behavioral objectives are a way of thinking and can not be intrinsically good or bad. What makes them desirable or not is their application.* (Haberman, 1970, p. 394).

THE behavioral (instructional, educational) objective approach to curriculum and instruction is both rational and, in theory at least, simple and straightforward. Essentially this approach advocates the precise specification of the desired goals of an educational program, course, unit or class, etc. in the form of unambiguously defined, observable and measurable, terminal learner behaviors. These previously delineated goals are then used to guide the selection and organization of content and learning experiences. They also serve as criteria by which students are evaluated and the effectiveness of the curriculum can thereby be assessed (Popham, 1969, p. 35; Eisner, 1967, p. 250).

To take issue with this widely accepted approach is to invoke a twofold risk. First to quarrel with such an overwhelmingly logical approach to curricular matters, one that has so well succeeded in establishing at least theoretical direction to many educational programs, is to lay oneself open to accusations of irrationality, an undesired, and hopefully undeserved, descriptor. Second, and more important, it is possible that faced with a position which questions the wholehearted acceptance of the behavioral objectives concept, frustrated and objective-weary nurse-teachers may too quickly opt for some other approach and lose the benefits that these valuable tools can provide.

Yet it is the purpose of this article to raise questions about the behavioral objective movement, and movement it appears to have become. But it must be stressed here that it is not so much the concept itself that I propose to query, as its application, and most particularly, its application in nursing education. It is my hope to bring perspective

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to the behavioral objective issue, to assist nurse-teachers to examine more critically the implications of its complete adoption that they may better use this approach to maximize its inherent advantages and minimize the potential hazards it may entail.(1)

Nursing Education first jumped on the behavioral objective bandwagon in the 'fifties. Since then, nurse-teachers have spent an inordinate number of man-hours producing more or less defensible behavioral objectives according to the gospel of Bloom, Mager and Krathwohl, with commendable, but too often, uncritical persistance. If we have reservations about their development and use, these are little evident in the nursing literature, nor are they evident in the curriculum practices of most schools of nursing. The arguments prevailing in the general education literature (Eisner, 1967; Kleibard, 1968; Atkin, 1968; Popham, 1968) over the implications and effects of the behavioral objective approach have little counterpart in nursing education, though we have been working intensively with this concept for well over a decade. Why is this?

It is typical of nursing education, and indeed a very human characteristic, that when we find a valuable and useful idea, approach or tool, we overuse it. We seem to suspend critical judgement; we try to make it fit every circumstance or make every circumstance fit it. No where is this so evident as in curriculum planning in schools of nursing. We select a useful concept or principle and attempt to force all content and experiences into its particular framework. Thus it was with Virginia Henderson's (or Maslow's) concept of needs; so it is with our use of behavioral objectives. Needless to say not everything will fit; if it does, it begs serious examination.

*A CLOSER LOOK*

The advantages of behavioral objectives are widely acclaimed. They provide direction for curriculum development and teaching; they facilitate learning by the student; they provide guidance for evaluation of curriculum outcomes. But do they? The arguments in their favour are essentially logical in nature and are most believable. Conceptually, behavioral objectives make sense. What happens in practice, however, in the application of the concept, is not always what one would expect. As Eisner points out the real value of objectives in curriculum development, teaching and learning is, in fact, an empirical problem and

> . . . if one consults the research literature to identify studies which demonstrate that educational objectives when clearly specified facilitate the construction of curriculum, learning or teaching, one finds that such studies at best, are inconclusive (Eisner, 1967, p. 277).

Let's look at these logical arguments in favour of objectives and at some of the related research.

## *CURRICULUM DEVELOPMENT AND TEACHING*

The specification of behavioral objectives, it is said, enables the teacher to choose wisely what should be in the curriculum and in what sequence. Through inference from these specific goal descriptions, the teacher can plan more easily the "tactics of instruction" (Gagne, 1964, p. 38). Objectives also permit preassessment of students — the pretesting for entry behaviors, which allows the teacher to determine the student's status in relation to terminal goals and to avoid reteaching what is already learned. (Popham, 1970, p. 14). They serve as guides for the teacher to faciliate the selection of appropriate student practice opportunities. When one knows what behavioral outcome is desired, opportunities for relevant practice during the instructional sequences which follow are more efficiently provided (Sullivan, 1969, pp. 69-70). They promote the individualization of instruction. Once terminal behaviors are identified, individual students' needs can be assessed and their instructional programs adapted accordingly.

These are only some of the logically well-supported claims for the use of behavioral objectives in curriculum and instruction. Yet little empirical evidence exists to support them. In fact some evidence seems to indicate that despite the values inherent in objectives, teachers, in reality, *do not know how to use them.* For example, Popham (1967), in several studies, compared the performance of groups of experienced teachers in promoting learners to attain prespecified behavioral objectives, with that of housewives and college students who had no teaching experience. There was no significant difference favouring the experienced teachers and his conclusion was ". . . that experienced teachers are simply not more experienced at accomplishing prespecified behavior changes in learning" (Popham, 1969, p. 45). Similarly, Baker (1967) reported a study where groups of teachers were respectively presented with sets of behavioral and non-behavioral objectives — the former derived from the latter. No difference in the performance of teachers using each type of objective was detected. A follow-up question revealed that the teachers using behavioral objectives were unable to recognize test items relevant to their specific objectives and again it was concluded that teachers did not know how to handle precise objectives.

It seems, and this is surely common sense, that teachers do need training to learn how to best use behavioral objectives. The mere statement of numerous objectives is of no use in itself. Objectives

must " . . . serve as a referent for instruction which leads to their attainment. . ." (Sullivan, 1969, p. 70) to be of any value in the improvement of teaching. How true is this in nursing education? We certainly are prodigiously producing objectives in large quantities. Do *we* use them to guide instruction? Do we know how to use them? Are we even aware that we may not know how to use them so that we may seek to compensate for this deficiency?

Other questions must also be raised here. If teachers are trained to teach efficiently to precise behavioral goals, what other effects upon instruction might result? For example, what about teacher spontaneity and flexibility? What about the unplanned, unpredictable and often productive side-effects of learning experiences? Would these be reduced? Should they be reduced? Questions like these can and should be answered through empirical evidence before we commit our energies to this approach entirely.

*STUDENT LEARNING*

Behavioral objectives, it is also maintained, if presented to the students, facilitate student learning. Mager suggests that they provide the student with the ". . . means to evaluate *his own* progress at any place along the route of instruction . . . ." (Mager, 1962, p. 4) Gagne (1965) too, supports the contention that attainment of desired learner outcomes may be increased by telling students the objectives prior to a unit of instruction. Here again, logically, one can present a strong case. Objectives provide the student with direction to his learning; they serve as advance organizers to the organization of subject matter; they provide feedback to the learner as he reaches specific goals; they enable the student to manage his time better since he is aware of desired outcomes, and they may act as reinforcers—the mastery of the objective itself proving rewarding to the interested student (Duchastel and Merrill, 1973).

Yet again, little empirical evidence exists to support these arguments. A recent review of research studies examining the role of behavioral objectives in the facilitation of student learning revealed very mixed findings (Duchastel and Merrill, 1973). Some indication was found that students *must* themselves believe in the importance of objectives if they are to have any effect. For example, students used objectives more effectively once they had written examinations obviously referenced to their course goals. (Tiemann, 1968). Other findings suggested that their effect related to the type of learning desired, or to the type of student involved. For example, in one study, objectives were found to have a neutral or interfering effect with the learning of problem-solving tasks; in another they

served to reduce the reasoning ability of students; and in still another, they lowered the students' anxiety level. Other studies indicated that objectives, unaccompanied by other differences in the teaching-learning sequence, seemed to have little impact on students' organization of their time. The strongest conclusion that could be formed on the basis of findings from these studies was:

> . . . objectives sometimes help and are almost never harmful. Therefore, if the provision of objectives is relatively inexpensive, one might as well make them available to students (Duchastel and Merrill, 1973, p. 63).

Not a very strong summary statement! Perhaps it serves to illustrate the complexity of the objectives issue, and that what should logically happen with the implementation of an apparently rationally sound educational concept, does not always occur.

## *EVALUATION OF CURRICULUM*

The potential value of behavioral objectives as guides for the evaluation of students and therefore of curricular outcomes is difficult to argue. When stated according to recommended format (Mager, 1962; Cohen, 1966; Esbenson, 1967; Briggs, 1970) each objective includes three criteria. The 'given what' criterion specifies the *conditions* under which the student will exhibit the desired behavior — that is, the material he must work on or the problem he must solve or the resources he can use, etc. The 'student does what' criterion indicates precisely what it is the student will perform under those conditions. The 'how well' criterion, though most difficult to define and therefore often excluded, describes the level of performance that will be considered minimally acceptable under the specified conditions (Briggs, 1970, pp. 19-20). If these three criteria are met, then implicit within every objective is its means of evaluation. The measure of student performance obtained in relation to the objectives, is a measure of the effectiveness of a given curriculum.

Literature abounds on the use of objectives for the development of tests and other evaluation techniques (Bloom, 1956; McGuire, 1963; Briggs, 1970; Bloom et *al.*, 1971). Yet there is a dearth of research on how behavioral objectives are actually used by teachers and others in the evaluation of students and curricula. Despite this lack several questions can be posed here which have particular relevance to nursing education. How closely do our evaluation techniques, particularly those concerned with the less controlled and less well-defined clinical performance of students, measure, in level and kind, the behaviours pinpointed by our objectives? Do our evaluation methods assess

only those objectives we have specified or do they in fact assess qualities not represented in our statements of goals? If the former is true, is there not danger we will miss important student learning not represented by our objectives? If the latter, how fair is this to our students (see discussion of validity below)?

Our use of objectives as tools for the evaluation of curricula begs consideration. It is my experience that in nursing education we use objectives primarily to evaluate students, not curricula. We do not tend to view high failure rates as a measure of ineffective curricula and instruction but are more prone to focus on student weaknesses or other factors as the villains in hand. The advantages of objectives in fostering curriculum revision and improvement of instruction are thus reduced. It is also possible that the undue emphasis we might place on behavioral objectives could blind us to other important factors which must be considered in the evaluation of curriculum. Factors such as faculty fatigue or satisfaction, faculty attitudes, student attitudes, undue costs, reactions of staff in clinical fields, community effects, etc. may contribute positively or negatively to the overall evaluation of the effectiveness of a program. We cannot rely on measures of attainment of behavioral objectives alone.

Other questions deserve scrutiny here but it is not within the scope of this article to give them the attention they warrant.(2)

## *SOME FURTHER PROBLEMS*

A number of other problems related to the behavioral objective approach remain as yet unsolved. For example, how many objectives are necessary or feasible for a given instructional sequence, class, course, etc., and by what criteria should this be determined? (Popham, 1969, pp. 53-55). Are the psychological processes of human beings adaptable to the precise logical process advocated by the behavioral objective approach to curriculum development? Is this approach the best way? Is it the only acceptable way? (Eisner, 1967, pp. 364-365) What limits do different kinds of subject matter place on the use of behavioral objectives? (Eisner, 1967, p. 362) These problems and others have been aptly dealt with elsewhere. Perhaps the problem which should result in the greatest reservations about behavioral objectives is that of validity — the validity of the behavioral statements chosen by curriculum developers and teachers to represent the desired outcomes of their programs. This problem is discussed in some detail below.

## *VALIDITY*

The question of the validity of behavioral objectives, although it has been touched upon by some of the critics of this approach (Eis-

ner, 1971 ; Kleibard, 1968 ; Ebel, 1967 ; Grobman, 1970), has received comparatively little attention in the objectives literature. Yet because of its implications for the validity of the total educational process based upon them it is of paramount importance. What about validity?

Generally speaking, experience shows, in developing curricula we tend to start from rather global aims or purposes as to what our students should learn and what our programs should do to help them learn. It is from these wide, all-encompassing goals that our precise and measurable statements of terminal student behaviors are derived, and it is our assessment of our students in light of these specific behaviors that informs us of our success in reaching our overall goals. Questions of validity enter into this process at several points.

First, let us examine content validity. Content validity in this context refers to the degree to which our specific behavioral statements in quantity and kind represent the total universe of behaviors that are bounded within the borders of the more global aims of our programs. For example, what assurance is there that the student behaviors specified in a given unit of instruction validly relate to the overall goals which they are purporting to represent? Can we defend either through empirical or logical means those specific statements we have chosen to represent such desirable, but intangible aims as critical thinking, originality, initiative, responsibility, cooperation and the like? These terms certainly appear in our calendars as goals for nursing programs. How have we validly translated them into precise behavioral objectives?

In fact, the criticism has been levelled that the type of objectives most easily operationalized in the acceptable behavioral objective format, are not those such as the above, but are those which classify at the simpler levels of cognitive or affective process according to tools like Bloom's taxonomy (Bloom, et *al.*, 1956). These are most likely cognitive, rather than affective or psychomotor in nature, as precise measurable cognitive goals are more easily specified than are others (Grobman, 1970, pp. 96-103). These simpler, cognitive statements therefore, tend to dominate our statements of objectives. Moreover, by their very nature as behavioral statements, they represent immediately observable behaviors and therefore are more often related to short-term goals (Grobman, 1970, pp. 100-101). The result is goal statements which tend to concentrate on minutiae and are lacking in items which focus on long-term changes in behavior or other more difficult and complex learnings represented by the upper levels of the taxonomies and areas like those of the affective domain. Goals like the latter which may relate to important overall program purposes but which cannot as yet be behaviorized or

are behaviorized only with difficulty, are thus ignored since teachers are naturally inclined to focus on those outcomes which have been predicted and are written down before them. If these criticisms are true, the potential effect on the overall quality of curriculum and instruction is obvious:

> If identification of all worthwhile outcomes in behavioral terms comes to be commonly accepted and expected, then it is inevitable that, over time, the curriculum will tend to emphasize those elements which have been thus identified. Important outcomes which are detected only with great difficulty and which are translated only rarely into behavioral terms tend to atrophy. They disappear from the curriculum because we spend all the time allotted to us in teaching explicitly for the more readily specifiable learnings to which we have been directed (Atkin, 1968, p. 28).

Thus the principle of content validity is violated.

Arguments such as these should be relatively easy to check. Schools of Nursing might simply take their lists of objectives, and classify them as to level and kind according to the taxonomies. It would soon become apparent whether the simpler end of the simple-complex continuum was favoured and whether cognitive objectives appropriately dominated our statements of goals. If this is the case, several possible explanations exist. One is that these less complex behaviours are all we expect our nursing students to know, believe or do and our content validity is preserved. This appears to be unlikely, however, in light of nursing's statements about the desirability of such qualities as creativity, leadership, acceptance and supportiveness in our students — qualities which do not lend themselves easily to behaviorization. Another explanation is that we do in fact expect much more complex and varied learnings but these are not represented by our objectives, behavioral or otherwise, and we ourselves may or may not be aware of the existing gap. If this is so, how do we evaluate our perhaps undefined and unconscious expectations? How do our students know what we expect of them? A third possibility, of course, is that our specified objectives are simply written statements to be put on display as our on-paper curriculum and bear little relationship to whatever guides our instructional and evaluation practices.

The other side of this validity coin provokes the question of predictive validity. Given the assessment of students in relation to their demonstration of specific behaviors under supervised conditions, what proof do we have that the ability to so behave is predictive of their attainment of the overall goals of the program and their continued practice of these in the future? By what reasoning can we

assume that achievement of specific objectives via performance on a pencil and paper test or, for that matter, performance in a supervised patient care setting, is indicative of how the student will behave in some as yet undetermined situation? As Eisner states

> . . . I am nagged by the belief that assessing student behavior at the end of an instructional unit does not really predict how he is likely to behave, or think, or experience outside the classroom (Eisner, 1971, p. 171).

Grobman suggests that the student's affective learning, may in fact be the major influencing factor in his willing continued performance of the behaviors we specify:

> . . . without achieving some positive affective outcomes, at least through the level of valueing, achievement of any other goals in the cognitive and psychomotor domains may be precluded (Grobman, 1970, p. 96).

Yet how many of us can or do explicitly define the attitudinal learnings we wish our students to achieve, and assess these as predictors of the attainment of the overall goals of the program? And how many of us follow up our graduates to assess whether their attainment of our behavioral objectives was in fact a valid indicator of the attainment of the desired outcomes of our programs?

How can we increase the validity of our statements of objectives? We can at least examine critically the objectives with which we are already working. Do they in fact accurately represent the broad overall aims of our programs? Or are there areas missing or lacking in the emphasis they deserve? Can we logically, or through research evidence support the terminal behaviors we have chosen? Or do they just 'sound good'.

We can also question our use of the behavioral objective format exclusively. Certainly use it where it is most appropriately used. But recognizing that some rather vague, nebulous and perhaps internal characteristics are nevertheless desirable in our students, can we not be flexible enough to admit these as yet imprecise, less easily measured and often long-term objectives to our statements of goals? Surely we have room for both; surely we can afford to lose sight of neither.

*Notes*

1 Some of the arguments reviewed here have been put before nursing previously (N. L. N., 1970). Reiteration and further elaboration of the objectives issue would appear to be in order, however, that we might develop a healthy sense of caution in our application of this approach in nursing education.

2 For example, criterion-referenced evaluation versus norm-referenced evaluation deserves close examination by nurse-educators.

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## *A RESPONSE TO "BEHAVIORAL OBJECTIVES: SOME PERSPECTIVE, PLEASE!"*

Ms. Attridge is to be complimented upon her exploration of issues about the use of behavioral objectives in nursing. Her queries about the behavioral objective bandwagon centre about the need for critical assessment regarding their use in as far as they contribute to curriculum development, teaching and learning. Attridge, in citing pertinent objectives, notes that little empirical evidence exists to support arguments regarding their use (Duchastel and Merrill, 1973). Her suggestions that nursing educators investigate the usefulness of behavioral objectives give support to others who have raised similar questions (Cooley, 1972; 1973). The writer and some of her colleagues at the University of Alberta School of Nursing have often wondered whether behaviorally-stated objectives foster student dependency rather than student independence, creativity, spontaneity, and flexibility. Faculty, concerned about assisting students to learn how to cope in a world of change, support Ebel's (1967) position that "education should be viewed more as a means of increasing the resources of an individual as he seeks to choose his own behaviors wisely" (p. 263).

Other concerns expressed about the short-comings of the behavioral approach are the base number of statements required, the emphasis on low-level cognitive performance with no necessary inferences regarding mental processes or learning in the cognitive domain, and the fact that most cognitive statements are considered without including the associated affective outcomes. One might also question whether affective objectives can be stated without considering cognition as these do not exist in isolation of one another.

While Attridge questions the use of behavioral objectives in nursing education on the basis of the experience in general education, one can question the application of these generalizations to nursing education. Perhaps the dilemma of whether or not and when to use behaviorally-stated objectives in nursing can best be resolved by nurse educators undertaking research into their use. C.A.U.S.N. members might investigate the function of behavioral definitions as they provide direction for curriculum development, learning and teaching.

For example, one group might document student behaviors which are observed concommitantly to the achievement of stated behavioral objectives. Another group might document student behaviors arising from the student's attempts to meet her own learning needs. Definitive research may reveal the usefulness of behaviorally-stated objectives for particular aspects of curriculum development and student learning experiences.

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