DOCUMENT RESUME

ED 103 32⁷   SO 008 183

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TITLE   Objectives Are Not the Place to Begin.
PUB DATE   Nov 73
NOTE   12p.; Paper presented at the Annual Meeting of the
                Rocky Mountain Educational Research Association
                (Tucson, Arizona, November 1973)

EDRS PRICE   MF-$0.76 HC-$1.58 PLUS POSTAGE
DESCRIPTORS   *Behavioral Objectives; *Course Objectives; Course
                Organization; *Curriculum Design; Educational
                Accountability; Instructional Design; *Instructional
                Improvement; Objectives; *Performance Based
                Education

ABSTRACT
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an almost universal requirement. Objectives, in fact, may be at a
general, specific, or competency level, but it is impossible to begin
to write any of these until a course configuration (format) has been
developed. Construction of a course configuration facilitates the
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of the appropriate type of objective as well as suitable instruction
and evaluation of each component; and, significantly, the integration
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revision. (Author/JH)

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OBJECTIVES ARE NOT THE PLACE TO BEGIN

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Paper presented at the Annual Meeting of the Rocky Mountain Educational Research
Association, Tucson, Arizona, November, 1973.

ABSTRACT

Objectives Are Not The Place To Begin

In the current drive toward improvement of instruction and
accountability, the writing of objectives has become an almost uni-
versal requirement. Disappointing attempts at writing them or
appropriating those of others often have resulted. Difficulties
have arisen because one must begin at the beginning, and the writing
of objectives is not the place to start.

Practically all models of the learning process and of the design
of instruction begin with objectives, but this is of little help to
the individual who must write objectives for a course, unit, or
lesson. The three criteria of a well-written objective also have
been so forcefully impressed upon educators, that they get lost in
a mass of details and throw up their hands in frustration.

Objectives, in fact, may be at a general, specific, or competency
level, but it is impossible to begin to write any of these types
until a course configuration has been developed. Construction of a
course configuration makes possible the determination of differing
levels of course components; the writing of the appropriate type of
objective as well as suitable instruction and evaluation for each
component; and significantly, the integration of content and student
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OBJECTIVES ARE NOT THE PLACE TO BEGIN

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There must not be many educators today who are immune from requirements to write object: .s. From administrators to teaching assistants, at all levels of education, orders are being given to put goals into behavioral terms. Some states have required that objectives be written for everything taught in the state system. Generally only vague statements as to their use or purpose have accompanied such decrees. Nevertheless, the result in many cases has been a frantic attempt to appropriate statements from courses of study or any other available source, with little thought given to their suitability as objectives for the local situation.

The reason for much of the difficulty, of course, is that one must begin at the beginning, and the writing of the objectives is not the place to start. Even though practically all models of the learning process and of the design of instruction begin with objectives, this is of little help to the individual who must write objectives for a course of study, a unit, or a lesson. Educators also have had impressed upon them so forcefully the three criteria of a well-written objective, i.e., context, behavior, criterion, that they get lost in a mass of details and throw up their hands in frustration. This has even led some to the belief that there can be no other kind nor level of objective that is acceptable. Objectives, in fact, may be at a general, specific, or competency level, but it is impossible to begin to write any of these

types until a course configuration or format has been developed. Only after working through the configuration of a course can writing of the objectives be undertaken with any efficiency.

It seems reasonable that one could start developing a course format or configuration with integration provided by either course structure or learner behaviors. Some courses appear to have a rather definitive structure inherent in the content itself. If content emphasis achieves course objectives, and certainly there are times when this is legitimate, then configuration efforts should focus first upon content dimensions. There are those, however, who prefer to emphasize desired learner behaviors. In such cases course configuration could proceed from specification of clusters of behavioral dimensions. In both instances content and learner behavior become integrated. When course structure delimits the configuration of the course, decisions must be made as to appropriate learner behaviors relative to the content dimensions. When learner behaviors delimit, decisions must be made as to appropriate content relative to the behaviors specified.

To begin to develop a course configuration, the first step is to determine the course objectives. This task is best undertaken by asking what a student should have achieved at the end of the course. The broad statements written as answers then should be translated into general objectives. As is true of more specific objectives, these should be in behavioral or "do" terms, but it is not necessary at this level to specify context nor criterion. On the other hand, if the goals of the course are so specific that it is possible to define both content and criterion, they should be included in the general course objectives.

Some criticism has been made against the determination of course objectives, as if it were somehow presumptuous for teachers to set out the goals of a course. Surely teachers always have had some notion of what were the goals of anything being taught, even if those goals were only dimly realized and largely unverbalized. Indeed such a specification would seem to be the proper task of a professional educator. If there is any reluctance about the appropriateness of course objectives, a sensible solution would appear to be an evaluation of proposed course goals by those most directly concerned. Representatives of the community at large, the school district, parents, teachers, administrators, and students could discuss and even rank course objectives believed to be most desirable for the local situation. This, of course, is one good way to stimulate involvement in school practice.

After course objectives have been determined, it becomes obvious that the entire course cannot be taught all at the same time. The next step, the designation and sequencing of the course components, preparatory to writing course component objectives, usually proves to be one of the most difficult. Yet it is one of the most important, since all subsequent development depends upon correctly analyzing a course into its components.

By course components is meant those constituent parts that relate to make up the whole course. No doubt an example would be helpful. Suppose the course objectives for an introductory statistics course had been decided. The course components might be designated as being two: descriptive statistics and inferential statistics. If this were done,

then a hierarchical type of arrangement would be the result, with sub-components appearing under each of the two main components of the course. Instead of starting with two main course components, it would be possible to analyze the course into those areas (components) that "hang together" for the most effective learning and then to sequence them in relation to the most effective facilitation of transfer. As an example, one could list components in a beginning statistics course such as probability, correlation and regression, variability, central tendency, inference about means, and so on. Once listed, the components could then be sequenced appropriately, probably in this case from the more simple to the more complex, always keeping in mind the need for the learner to transfer previous learning to new learning.

There may be a rare case or two where the components appear to be independent of each other or unrelated. In such a situation, sequence can be adjusted to preference or possibly even tradition. Perhaps it might be well to examine the components rather critically to see if they really belong in some other course or if there is any justification for offering a course with such a diverse assortment of topics.

When the course components and their sequencing have been worked out, course component objectives may be written. These too should be in behavioral terms, that is, in terms of what the student should be able to do after instruction. Again, it is not necessary to specify context nor criterion, for the course component objectives are at a more general level as were the course objectives.

As should be obvious, the course components still represent rather broad areas of learning for a student and must be analyzed further for

instructional purposes. Therefore, before any kind of teaching can begin, it is necessary to analyze the previously determined course components into their instructional components. This analysis is preparatory to the writing of the specific behavioral objectives for each instructional component of each course component. In the statistics course, for instance, correlation and regression might have been chosen as one course component. To provide any instruction in this area, the instructional components of this course component must be decided so that appropriate instruction can be developed. The instructional components of a course component called correlation and regression might be the following three: correlation, regression, and factors affecting interpretation. These become the basis for the designing of the instruction, since instruction must be planned and carried out for each in order for a student to achieve the course and course component objectives.

The sequencing of the three instructional components in the example may cause some difficulty. Some statisticians believe transfer is effected best when instruction proceeds from regression to correlation to interpretive factors. Others feel that correlation should precede regression. When there is a lack of hard evidence upon which to base transfer facilitation, the teacher may sequence according to experience and preference, but the instructional sequence always should cue or teach transfer from one instructional component to the next.

When the instructional components have been specified and sequenced, specific behavioral objectives should be written for each. Specific behavioral objectives often are termed terminal objectives or

performance objectives. Whatever they are called, the context, behavior, and criterion must be included. The reason for this is that it is impossible to design efficient and effective instruction without them. In other words, the selection of the most appropriate instructional events, alternative media, and evaluation proced es are all based upon the specific behavioral objectives. Nevertheless, one last step is required before the actual design of the instruction may begin.

As far as the learner is concerned, the instructional components still represent rather broad areas of learning. For instance, as instructional component called correlation entails a rather large amount of learning. Hence instructional components must be analyzed into lessons which in turn must be sequenced properly. Perhaps a lesson on the concept of determining relationship and early attempts to do so, a lesson on calculating a simple coefficient, a lesson on interpreting a coefficient, and a lesson on other types of coefficients might make up the instructional component of correlation.

What about objectives for the individual lessons? Earlier it was stated that specific behavioral objectives which included context and criterion should be written for the rather broad areas called the instructional components. Assume that there were several specific behavioral objectives written for the correlation instructional component and that these objectives dealt with the basic concept, calculation, interpretation, and choice of correct technique. Here, in the writing of lesson objectives, one can profit from previous work. This is true since the instructional component objectives determine the lessons necessary for achievement.

There are two ways one might proceed relative to lesson objectives.
One way is to select those particular specific behavioral objectives
(written as instructional component objectives) appropriate for each
lesson, and simply use them again as terminal or specific behavioral
objectives for the lessons. In the example, the objective(s) written
as a specific behavioral objective (at the instructional component level)
for calculation of a correlation coefficient would be repeated as a
terminal objective for the lesson on calculation. Then the subobjectives
or enabling objectives or competencies, as they are variously called,
are developed and sequenced under each of these. The other way to pro-
ceed is to call the enabling objectives or competencies the terminal
objectives of the lesson.

No matter which of the two ways is chosen, the competencies or
enabling objectives for the specific behavioral objectives must be deter-
mined, since they provide the basis for the instruction in the lesson.
There is one advantage to repeating instructional component objectives
(specific behavioral) as lesson terminal objectives. When this is done,
there may be less .iger of competencies becoming ends in themselves
rather than means to an end. Of course, thi   umes that the specific
behavioral objectives were complete and appr   3. Even if they were
not, however, the working out of the competer   relation to the
specific behavioral object.ves often rectifies c.. .sions and   ilty
decisions.

It is suggested that students be pre-tested and post-tested at the
instructional component level rather t an at the lesson level. The lessons

are designed, after all, to permit achievement at the instructional component level. Pre- and post-tests then would be constructed relative to the specific behavioral objectives of the various instructional components. The lessons, in this case, should provide for ample practice and feedback of a type similar to that included in the post-test. Remediation for common errors and misconceptions can be handled efficiently at the lesson level and should be included.

The sense of being at a complete loss experienced by many who have been required or who have tried to write objectives usually stems from the fact that they really have not had a clear conception of what they were trying to do nor much of an idea as how to proceed. These difficulties often can be remedied by developing a course configuration and. then writing objectives at varying levels of specificity. An additional outcome from such a procedure can be a significant improvement in instruction, for the result should be a relevant, well-integrated and carefully designed course.

One last word of caution. Scarcely anyone working out a course configuration is satisfied with his first attempt. On the other hand, it may look very good upon first implementation, but the discovery no doubt soon will be made that revision is required. Constant revision and modification are the key to the improvement and updating of instruction and should be accepted as a part of the procedure. The course configuration moreover allows the making of improvements and changes with precision rather than in a haphazard or random manner. Because the components, objectives, and lessons have been specified, any necessary

revisions must be integrated into the complete course format. They

cannot be appended as afterthoughts or simply added as time fillers.

The result can be the assurance of a course in which content and student

performance are integrated in a manner to facilitate effective and

efficient learning.