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CONSIDERABLE insight can be gained about ancient man by inspecting the residual artifacts associated with his normal activities. A competent archaeologist, given a handful of potsherds and stone tools, can derive amazingly sound inferences regarding a preliterate society's life style, physical appearance, etc.

During recent months I have been probing my own thinking regarding instructional objectives, and have found archaeological tactics useful. Specifically, I have been examining my personal artifacts, collected during the past decade, which are particularly relevant to the question of whether instructional objectives should be stated in behavioral, that is, measurable, terms. As I share with the reader these artifacts and the inferences I derived from them, a judgment can be made regarding the adequacy of my archaeologically-derived insights, and the merits of my current answer to the question, "Must all objectives be behavioral?"

Date: Winter 1960.

Artifact: Several used practice sheets from an early field test version of Robert Mager's classic book on instructional objectives.

Inference: These yellowed relics recall a time when I was on the faculty at San Francisco State College and Bob Mager, who lived nearby, was trying out preliminary versions of his self-

instruction booklet, *Preparing Objectives for Programmed Instruction*, in my classes. For me, this was a period both of curiosity regarding the merits of measurable objectives and of increasing belief that such objectives could be useful in instruction. Having been reared during teacher education and graduate school days on a diet of grossly general objectives such as the *Seven Cardinal Principles of Secondary Education* ("Worthy use of leisure time"), I was fascinated with what seemed to be a powerful way of clarifying a teacher's instructional intentions. Enough of gunky generalities. Precision was around the corner.

Date: Fall 1962.

Artifact: A blue and gold bumper sticker which reads "Help Stamp Out Nonbehavioral Objectives!"

Inference: Upon joining the UCLA faculty, I had these bumper stickers printed (in UCLA colors) to distribute to my students, friends, and selected enemies. This artifact probably reflects the zenith of my zeal for behavioral objectives, the religious ardor of any recent convert being a well-established phenomenon. If students asked "Can I use nonbehavioral objectives in my teaching?" I would respond "Certainly, but they won't be helpful."

If I found a colleague using nonbehavioral objectives for his own classes, I sneered disdain-

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fully. Since I was a new, nontenured faculty member, the degree to which my sneer was visible depended heavily on the academic rank of the colleague in question, full professors receiving only a mild upper lip quiver.

Date: Fall 1964.

Artifact: A two-tone green bumper sticker which reads "Help Stamp Out Nonbehavioral Objectives."

Inference: There are two noticeable differences between this relic and the 1962 artifact. First, and unimportantly, there is the color difference. This was attributable to the fact that at the same time I had exhausted the supply of blue and gold stickers I bought a green Volkswagen. I wanted a color-compatible bumper sticker. Second, and more critical, note that in this new bumper sticker *there is no exclamation point!* I can recall asking the printer to delete it from the new version, primarily to reflect my increasingly moderate stance.

Date: Spring 1966.

Artifact: A heavily marked copy of an AERA paper by Elliot Eisner entitled "Educational Objectives: Help or Hindrance."

Inference: This paper was given by Elliot at an annual meeting of the American Educational Research Association. It represented the first time I had heard someone systematically attack the glories of behavioral objectives. I was aghast. I had not met Elliot previously, and I can recall standing up in the crowded meeting room after he read his paper and saying, "I have never before heard a paper with which I was in total disagreement with every point made; fortunately, this is such a paper." For me, it was an enthralling emotional experience. This artifact marked the beginning of my combative period.

Date: Spring 1966.

Artifact: A handwritten first draft copy of a paper I wrote entitled, "Probing the Validity of Arguments Against Behavioral Objectives."

Inference: It does not take a sophisticated analyst, archaeological or psychological, to infer from the title which side I was taking in what was emerging as a debate between proponents of behavioral objectives and "those other villains." An inspection of the content of the paper reveals a pretty hard-line rejection of any criticism of behavioral objectives. The emergence of critics had galvanized my support of mea-

surable objectives as a technique for educational improvement—which, if not quite panacean, were almost that praiseworthy.

Date: Summer 1966.

Artifact: An apparently unused white T-shirt with red block letters reading "Help Stamp Out Nonbehavioral Objectives."

Inference: This T-shirt had been given to me by several graduate students who were aware of my opposition to nonmeasurable objectives and also of my fondness for the Southern California beaches. They pointed out that since one could secure a sunburn through the white cloth, but not the red letters, I could wear the shirt on the beach for several sunny weekends, then remove it and be a "living symbol of support for behavioral objectives"! The fact that the shirt appears to be unused suggests either a mellowing of my position or, probably, cowardice.

Date: Fall 1966.

Artifact: A badly scratched original filmstrip entitled *Educational Objectives*.

Inference: Preparation of this filmstrip marked the peak of my evangelical period. I continued to encounter scores of educators who had not even heard of a measurable instructional objective, much less were actively using them. So I developed a filmstrip-tape program to spread the word. The half-hour program was revised nine times before being released and was able to accomplish reliably its own objectives. Perhaps in part because it¹ has been so widely used, I now regret the choice of the expression "behavioral objective" which is employed throughout the program. Although for many people the term "behavioral" connotes some sort of mechanistic approach to instruction, such an approach is not necessarily associated with this conception of an instructional objective. Undoubtedly the choice of a phrase such as "performance objective" or "operational objective" would have been preferable.

As one surveys the general message conveyed in the filmstrip-tape program, it is almost exclusively an advocacy of measurable goals and a castigation of nonbehavioral goals "because we really can't tell what such nebulous statements mean."

Date: Spring 1968.

Artifact: The original typescript of a col-

¹ Distributed by Vimcet Associates, Inc., P.O. Box 24714, Los Angeles, California 90024.

loquy destined to appear in the AERA monograph, *Instructional Objectives*.

Inference: A hard-liner begins to soften. This typescript was based on a February 1968 conversation among Elliot Eisner (the originator of the Spring 1966 artifact), Louise Tyler, Howard Sullivan, and myself. We had each prepared separate chapters for an AERA monograph on the topic of instructional objectives and subsequently met one long evening in a Chicago hotel room to conduct tape-recorded discussions of each of the chapters. These recordings were subsequently transcribed, edited, and later appeared in the monograph published by Rand McNally & Company in 1969.

I had become better acquainted with Elliot since our first meeting in 1966. Nevertheless, on that February evening I expected him to be a recalcitrant opponent of measurable goals. He wasn't. He was quite reasonable. A skilled archaeologist analyzing the transcript of the conversation would not be able to tell that I was thinking, "Elliot has some good points." But I was.

Date: Fall 1968.

Artifact: A handwritten proposal for the establishment of the Instructional Objectives Exchange.

Inference: I was tired of hearing teachers complain they were too busy to write out measurable objectives for their instruction. It seemed that we might reasonably expect them to be selectors, not generators, of precise goals. Hence, while returning from an administrators' workshop in Fresno, I decided to try to set up an operation analogous to an "objectives bank" so that educators could draw out collections of behavioral objectives, then select those which were appropriate for their local instructional situations. The Instructional Objectives Ex-

change was established as a project of the UCLA Center for the Study of Evaluation later that year and is now operating as a nonprofit educational corporation.² While the vast majority of objectives currently distributed by the Exchange are behaviorally stated, there are a number of general, nonbehavioral goals which are used as descriptors of large groups of more specific objectives.

Date: Winter 1970.

Artifact: A two-tone blue bumper sticker which reads "Help Stamp Out Some Nonbehavioral Objectives!"

Inference: The floodgates may have been opened. The addition of the term "some" to the sticker indicates a putty-like softening of the former hard-liner. The reintroduction of an exclamation mark (with its already demonstrated capability of being deleted) may foreshadow even more softening in the future. In reality, when I distribute the current bumper stickers, it gives me an opportunity to describe my current thinking on the question of whether instructional objectives should be measured. A brief description of that position follows.

The Current Stance

It is probably unnecessary for one to observe that ten years of experience with a certain point of view have led to improvements. Nonetheless, I am going to assert that my current ideas regarding the necessity of operationality in objectives seem a great deal more defensible than my zealous exclusivism of the early sixties.

My advocacy of measurable goals has

² Box 24095, Los Angeles, California 90024.

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not been altered one whit. Insofar as an instructional objective is stated with sufficient clarity that we can *measure* whether it has been achieved, then clear instruction and evaluation benefits arise. Because some of our most important educational goals are particularly elusive, we should invest greater resources in devising sophisticated measurement tactics to assess such currently unmeasurable outcomes. During recent months at the Instructional Objectives Exchange we have been constructing measurement devices to get at such educational outcomes as students' attitudes toward learning, tolerance toward minority groups, self-concept, judgment, and attitudes toward drug use. These objectives and measures are not all that polished yet, but they are better than we had a few years ago.

There are many promising measurement avenues which American educators have not yet traveled with sufficient verve, that is, financial support. For example, a number of important advances have recently been made in use of physiological indicators such as the pupil dilation of one's eyes to serve as a reliable index of interest. We cannot be satisfied with the conventional testing approaches we have lived with for years. New unobtrusive and exotic assessment schemes must be developed. Thus, point one in my current position is that we must continue to pursue measurable objectives, for our ultimate aim should still be to employ instructional objectives which permit us to tell whether they have been accomplished.

However, there are some important goals which we have for our children which are *currently* unassessable. To the extent that such goals are extremely meritorious, they are *worth the risk* of our pursuing them even if we cannot reliably discern whether they have been accomplished. High gain goals warrant high risk instructional strategies. Let's use an illustration. Suppose our aim is to have children acquire a certain attitudinal predisposition which will be manifest, by definition, only after they become adults. Our best hope for assessment is to isolate predictor behaviors which are currently measurable and use these as proxies

for the long term goals. This is a defensible plan, *if* we can isolate proxy behaviors in which we can be confident. But since we have really just begun to get very sophisticated and circumventious in our measurement approaches, there are long range goals for which we presently can't find suitable proxies. Accordingly, I believe that a reasonable proportion of an instructor's goals, if they are of sufficient import, can be of a non-behavioral nature.

The magnitude of the proportion is, of course, at issue. It seems that in some content-laden classes the proportions of non-measurable goals might be very small. In other courses, for example, the humanities and aesthetics, the proportions might be much larger. What troubles one about ever voicing this "permit some nonmeasurable goals" point of view is that too many teachers may employ it as an excuse for business as usual, and today's business as usual in American education is unacceptable. The *overwhelming* proportion of objectives pursued by our teachers are unmeasurable, hence of little utility. It may well be that the chief deterrent to improved educational quality is that our teachers have no way of telling how well they are doing. Measurable goals permit defensible quality judgments. Nonmeasurable goals do not. Thus, to endorse the inclusion of a proportion of nonmeasurable objectives for instructional planning is not to endorse the status quo in our educational system regarding the use of instructional goals. Too few teachers employ a sufficiently large proportion of measurable objectives to be able to discern whether the bulk of the instructional efforts are satisfactory. This situation must be altered.

"Must *all* objectives be behavioral?" The answer is *no*. "Should *most* objectives be behavioral?" The answer is *yes*. It will demand far greater ingenuity and effort to produce an educational world compatible with the second answer than with the first. Hopefully, in eons to come, some archaeologist of the future will unearth our present society's educational artifacts and discern that our answers and the resulting actions were correct. □

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