

designed to fulfill this need and provide the necessary training for teachers and evaluators to properly use the program.

An IOTA workshop is not a spectator sport, but consists of total involvement in large and small groups as well as individual activities.

The workshop has three major segments:

First, a study of the definition of teaching as outlined in the *Role of the Teacher in Higher Education*, covering the seven areas of teacher competency.

Second, a study of the *Instrument for the Observation of Teaching Activities* comprised of five items describing levels of competency in each of the 28 scales for the evaluation of teaching competence.

Third, workshop participants receive training in objectivity in collecting, recording and classifying verifiable data through observation of teaching activities, and applying the data to the instrument. Participants get training in conducting structured interviews. The workshop also provides unusual opportunities for communication concerning the philosophical and operational levels of teaching. The IOTA instrument and the workshop experiences provide the teacher with a means of assessing his own competence in classroom instruction for the purpose of professional self-improvement. It has a strong thrust in the direction of self-assessment and self-improvement.

This definition and instrument were field tested in a NACTA-IOTA Workshop at Arizona State University February, 1972. Another IOTA workshop is being planned in connection with the next NACTA Annual Meeting at State University of New York, Agricultural and Technical College, Cobleskill, New York, June, 1973.²

In summary, a program has now been devised defining the role of the college teacher, together with an instrument to measure his teaching competence and provide impetus for the

improvement of instruction. The IOTA program for improvement of instruction is based upon the concept that teaching is a professional task, and that significant instructional improvement requires the cooperative endeavor of teachers and administrators working cooperatively and scientifically toward this end.

Those who experience the IOTA workshops are provided a means of assessing their own competence in classroom instruction, in addition to motivation and guidelines for their own professional improvement.

1. AN EXAMPLE OF AN IOTA SCALE 5. SKILL IN CLASSROOM PRESENTATION

The teacher:

- A. Makes presentations that tend to lack organization, applicability or substance.
- B. Makes organized articulate presentation, utilizing a variety of appropriate styles and media.
- C. Makes appropriate presentation that is well planned and delivered with appropriate use of media.
- D. Makes organized presentation with flexible style of delivery.
- E. Makes instructional presentation offering little or no variation in delivery system.

2. ANNOUNCEMENT

A NACTA-IOTA Workshop will be held at State University of New York, Agricultural and Technical College, Cobleskill, New York, June 8-13, 1973; Registration Fee: \$80.00.

Since for planning the number of participants must be known, a \$25.00 deposit before March 31, 1973 will be necessary. Make out checks or money orders to National IOTA Program and mail to:

E. Grant Moody
Division of Agriculture
Arizona State University
Tempe, Arizona 85281

NACTA Journal Manuscript No. 11/8/72/13

A COMPLEX PROBLEM: EVALUATING INSTRUCTION

Dale E. Boyd — Iowa State University

Perhaps it is only a Pavlovian knee-jerk response to the public demand for accountability from educational institutions. Perhaps it is a sincere desire to evaluate instruction only for the altruistic purpose of improving that instruction. Whatever the reason, institutions are increasingly faced with the task of implementing worthwhile measurement devices for the teaching-learning process.

Barriers to the task are a natural distrust and fear by faculty of any measuring device and a lack of confidence by administrators in any method which forces qualitative data into quantitative molds.

One such evaluation at the Department of Journalism and Mass Communication at Iowa State University (Ames, Iowa) produced data which reflect the complexity of the problem of designing effective measurement instruments. Sixteen teaching members of the staff which serves an undergraduate enrollment of approximately 400 students responded to a questionnaire on instructional activity styles, learning effectiveness and the social-emotional climates in their classrooms.

Years of Fruitless Research

Many educators say that 50 years of research have brought us very little closer to a sound response to the fears of faculty and distrust of administrators in evaluation techniques or instruments. Business and industry, governmental agencies, the armed services, religious orders and most schools, despite lack of conclusive research support, now use instruments of different kinds to judge the production of one employee against another or against a specified performance standard. All of these instruments rely to varying degrees on judgments subject to human fallibility, bias and error. By its very definition, evaluation is subjective.

Still, it is becoming more imperative that the educational process and the participants in the process be evaluated.

In the Iowa State study, instructors were asked to indicate the amount of time they spent in each of nine teaching activity styles. The particular styles were the most appropriate ones selected from a list of 14 used in a 1969 study of elementary and secondary schools by Martin N. Olson, associate director of the Institute of Administrative Research at Teachers College, Columbia University.

The ISU instructors said they use the following styles in these class-time percentages:

Lecture	24.4%
Laboratory	13.9%
Individual work	12.8%
Discussion	12.4%
Small group work	11.0%
Movies, slides, etc.	9.2%
Question/answer	6.0%
Tests, evaluation	3.9%
Demonstration	3.6%

Ranking of learning effectiveness for each style was also made by staff members on a five-point scale: 5 excellent, 4 very good, 3 good, 2 average and 1 poor. The results:

Lecture	2.4%
Laboratory	3.9%
Individual work	4.4%
Discussion	3.6%
Small group work	3.7%
Movies, slides, etc.	3.8%
Question/answer	3.2%
Tests, evaluation	3.0%
Demonstration	3.6%

Because responses were generally clustered and levels of variance were narrow, only the mean responses were used to correlate teaching activity styles and learning effectiveness. A

strong negative relationship between lecture usage and what was believed to be its learning effectiveness is evident in the results. Likewise, the relationship between individual work usage and the instructors' judgment of its effectiveness is not as positive as scaling of the remaining seven styles indicates.

In light of these responses, an administrator may reasonably ask, "If lecturing is perceived to be so ineffective from the learner's standpoint, why is it used so much?" Or, contrarily, "If individual work produces such perceived effective learning, why is it used so little?"

Illustrative of these dichotomies are the numerical rankings of style usage and perceived effectiveness in the ISU study.

	Usage	Effectiveness
Lecture	1	9
Laboratory	2	2
Individual work	3	1
Discussion	4	5.5
Small group work	5	4
Movies, slides, etc.	6	3
Question/answer	7	7
Tests, evaluation	8	8
Demonstration	9	5.5

Style alone, however, may not provide the key to effective teaching. A number of respected educators and education researchers — Flanders, Gage, Gagne and Cronbach among others — have directed their concerns to classroom interaction and teacher personality. Their studies seem to indicate that "indirect" teachers stimulate increased student achievement at a higher level than do "direct" teachers.

Classroom Climate Analysis

Congruent with such a premise, the ISU questionnaire sought to analyze the social-emotional climate of the instructors' classrooms. Used was a classification system of instructor statements first suggested by John Withall in a Ph.D. dissertation at the University of Chicago in 1948.

Only the neutral instructor statement was eliminated from Withall's list which included in descending order, indirective to directive: learner supportive, clarifying, problem structured, neutral, directive, reproving and instructor supportive statements. His study indicated that different leadership styles produced different social-emotional climates in the classroom and resulted in different group and individual behaviors.

Those instructors making higher percentages of learner supportive statements were treated as "indirective," or more democratic by Withall, and those with higher percentages of instructor supportive statements were identified as "directive," or more autocratic.

As a group, the survey showed, ISU Journalism instructors make classroom statements at these percentage levels:

Learner supportive	30.0%
Clarifying	22.5%
Problem structured	20.4%
Directive	16.5%
Reproving	6.5%
Instructor supportive	4.1%

What Difference Does It Make?

A logical question at this point of the data examination may well be "What difference does it make?" Does it really matter if Teacher A uses more visuals than does Teacher B? If Teacher C has a more acceptable social-emotional climate level in his classroom than does Teacher D, is there any significant change in learning?

Well, perhaps there is.

One part of the ISU questionnaire sought just such an answer. Faculty members were asked to name three of their peers whom students would select as the top classroom teaching members of the staff. Nine of the 16 Journalism staff members were named one or more times.

Teaching activity styles of those nine were compared to styles practiced by the seven not named as likely student selections. Further, comparisons were drawn between the "directness" or "indirectness" of the two groups of instructors.

Discrepancy in Style Usage

The widest discrepancy in the two groups' teaching styles was apparent in the lecture category. Those named as most likely nominees by the students as top teachers said they lectured an average of 27.2 per cent of the time. Those not named lectured only 20.7 per cent of the time.

The second most obvious difference in style appeared in the use of visual aids — movies, slides, etc. Top teachers made use of movies, slides and other visual and audio devices 11.9 per cent of the time while those instructors not selected as top teachers used the style only 5.7 per cent of the time.

Also significantly different was the use of individual work as an instructional style. Top teachers gave about one-third fewer individual work assignments than did the unnamed instructors.

Other noticeable differences were in the laboratory, discussion and small group work styles. Top teachers employed small group work as an instructional style 12.3 per cent of the time against 9.3 per cent usage by unnamed instructors. Those named as better teachers, however, relied less on the discussion style than did their counterparts — 10.9 per cent to 14.3 per cent — and on laboratory methods — 12.9 per cent to 15.1 per cent.

The percentages of instructional activity style usage for the two ISU groups show:

Named Instructors		Unnamed Instructors
27.2%	Lecture	20.7%
12.9%	Laboratory	15.1%
10.6%	Individual work	15.7%
10.9%	Discussion	14.3%
12.3%	Small group work	9.3%
11.9%	Movies, slides, etc.	5.7%
5.1%	Question/answer	7.1%
4.1%	Tests, evaluation	3.7%
3.2%	Demonstration	4.0%

(Totals do not equal 100 per cent because some teaching styles used did not fit those specifically listed.)

It may be foolhardy to generalize from the results of the Iowa State University questionnaire that effective teaching (or learning) depends in any large degree upon instructional activity style. Those instructors valued by their peers as being accepted by the students as better teachers exhibit teaching methods which may not necessarily produce improved learner achievement. In fact, the better group made more use of the style judged least effective than did the poorer group.

Equally fallacious may be a generalization that the social-emotional climate of the classroom has a significant bearing on instructional effectiveness.

The nine-instructor group estimated they made 35.6 per cent learner supportive statements while the seven-instructor group said they made only 22.7 per cent statements fitting the same category. Likewise, the nine-member group made only 2.0 per cent reproving statements while the seven-member group estimated they made statements 12.3 per cent of the time in that classification. Such performance tends to reinforce Withall's thesis that "indirect" teaching stimulates greater student achievement.

A comparison of the two ISU groups and the percentages of statements they estimate they make by categories are:

Named Group		Unnamed Group
35.6%	Learner supportive	22.7%
20.1%	Clarifying statements	25.6%
22.9%	Problem structured	17.0%
15.6%	Directive statements	17.8%
2.0%	Reproving statements	12.3%
3.9%	Instructor supportive	4.6%

No Room for Blind Faith

The bias of the investigator in the selection of questions to be included in the measurement instrument, the evaluative interpretation of the questions by the respondents and the limited size of the ISU Journalism staff make it difficult to place blind faith in the results.

Likewise, one might look at the difficulty of judging the "directness" or "indirectness" of classroom statements with the added complexity of message interpretation by the student, or

the non-verbal subtleties of instructor communication.

If nothing else, however, the survey findings emphasize the need for improved evaluation methods and instruments. Further, the results seem to show a need to avoid setting artificial standards against which all instructors are to be measured.

If teaching is an art rather than a science, and many believe such is the case, then only by a gut feeling can one subjectively (non-scientifically) compare the teaching ability of one instructor to that of another just as that same feeling compares the work of a Grandma Moses to that of a Michelangelo.

It's true that competent art critics approach objective (scientific) criticism by developing criteria from art works which have stood the test of time. Such things as conformation, texture, expression, center of interest, balance and perspective seem to add credence to their decision that one painting may be better than others.

In the evaluation of the art of teaching, too, acceptable criteria may be found. But, such qualitative matrices are elusive, at best. We need to avoid the ready devices which appear to

answer the evaluation problem — devices which falsely force round or qualitative pegs into square or quantitative holes. What we need is a board with round holes for teaching's round pegs.

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NACTA Journal Manuscript No. 8/4/72/6

TECHNIQUES TOWARD ACHIEVING STUDENT SELF-MOTIVATION¹

by James G. Kendrick

Professor, Agricultural Economics, University of Nebraska-Lincoln

Instructors are constantly seeking teaching methods that will motivate students. However, if techniques exist that can accomplish student self-motivation, I submit that the instructor's job would become considerably simplified as he manages the learning process and watches the students teach themselves.

The Importance of Administrative Support for Teaching Excellence

A slight digression is necessary prior to examining techniques to accomplish student self-motivation. Teaching excellence, or concerted efforts to achieve excellence, only occur when administrators believe teaching is important. Starting at the departmental level and continuing through the upper echelons of the University, administrators must establish an atmosphere that convinces students and instructors alike that teaching is a serious business and a privilege.

Students seem to be intuitively capable of detecting attitudes, and if teaching is viewed as a serious business, then learning also becomes serious business. While said in jest, the oft heard comment "... this would be a fine University if it wasn't for the students" reflects an attitude that prevents excellence in the classroom.

I submit that the prevailing attitude of an institution regarding teaching can be ascertained through the answers to three questions:

- 1) Do present instructors regard teaching as a duty or a privilege?
- 2) Who teaches the freshman-sophomore level courses?
- 3) When administrators meet to divide the salary pie, does teaching rank equally with research and extension?

If an institution has a policy that permits, encourages or requires instructors below the rank of Assistant Instructor to meet classes; if classes are assigned to teachers rather than being competed for; if teaching is fine but research is the path to glory; if any of these attitudes or policies exist within an institution, then I must conclude that the commitment to teaching is tenuous at best.

Assuming an Administrative Commitment to Quality Instruction

Providing there exists administrative support for teaching excellence, the instructors who are permitted to teach soon find themselves in a competitive environment that forces the teacher

to strive for personal excellence. However, a college commitment to quality instruction generates problems that require solutions if real learning is to take place. Classes increase in size. A college commitment to teaching means that budget increases for additional teaching staff are justified by present overloads. First, generate the overload, and then obtain the additional teachers. Given a competitive teaching environment, the additional staff create additional overloads rather than provide relief to problems that accompany large classes.

The Large Class Syndrome

I am convinced that dedication to teaching means large classes. The problem is how can the instructor motivate the individual student in a sea of faces and still retain his sanity at the end of the semester. Years ago, the sane instructors counseled me that the only way to exist in such an environment was for the instructor to become as lazy as possible by providing gimmicks that permit the students to teach themselves much of the course material.

Now, terms like "lazy" and "gimmicks" are for internal use only and are not recommended syntax for administrators or legislators. Can a teacher be lazy, use gimmicks and still teach effectively? I have become convinced that effective teaching requires a lazy instructor and will now hasten to justify this apparent heresy.

Observations on the Use of TV and Audio-Tutorial Laboratories

Over the years, I have attended dozens of teaching improvement workshops, meetings, conferences and discussion groups. The use of TV lectures for servicing large classes was a panacea offered at an early workshop. However, the amount of effort required to think through a semester's work, organize it in some rational manner, anticipate the questions that would come from a live class, provide answers on tape, keep the lectures lively and the time expended in filming, editing and re-filming and re-editing — is horrendous.

A few, non-lazy instructors took the year of week-ends and vacation time required to place a course on the "tube." And the result? After an initial student enthusiasm that always accompanies a new technique, the ingrates complained vigorously to the administrators concerning the lack of learning taking place and the impersonal nature of the process.

Another workshop, held a few years ago in Illinois, demonstrated the latest technology in audio-tutorial instruction. Slide

¹ From remarks originally presented for the Educational Workshop, American Agricultural Economics Association Annual Meeting, Gainesville, Florida, August 24, 1972.