DOCUMENT RESUME

ED 142 470 SO 010 164

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TITLE Does It Work? Evaluation Guidelines for Global Studies Teachers.
INSTITUTION Global Development Studies Inst., Madison, N.J.
PUB DATE May 77
NOTE 36p.
AVAILABLE FROM Global Development Studies Institute, P.O. Box 522, 14 Main Street, Madison, New Jersey 07940 ($2.00 paper cover)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Affective Tests; Attitude Tests; Cognitive Measurement; *Course Evaluation; Curriculum Evaluation; Essay Tests; *Evaluation Methods; *Global Approach; Guidelines; Higher Education; International Education; Objective Tests; Secondary Education; Semantic Differential; *Social Studies; Testing

ABSTRACT

Evaluation of a course in global education must determine whether a student knows basic information about the world and whether he sees himself as an integral part of that world. The evaluator is concerned with the quality of curriculum, teaching methods and materials, and with the actual content the student has learned. Both cognitive and affective domains must be evaluated to ensure that the student knows and applies relevant facts. The first step is for the evaluator to set up a logical framework which defines the goals of the course and the methods of evaluation. Suggested methods include interviews, research projects, and objective and essay tests. Interest scales, semantic differential scales, and Likert scales, which determine student attitudes, are also recommended. Directions for the construction and use of a logical framework, testing models, and a glossary of terms relevant to education and testing are included in appendices. A bibliography provides sources on both evaluation and global studies. (KC)

DOES IT WORK?

EVALUATION GUIDELINES FOR GLOBAL STUDIES TEACHERS

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DOES IT WORK?

Evaluation Guidelines
For Global Studies Teachers

PREFACE

"Does It Work?" is the latest step on a continuing path that has has been taken by the Global Development Studies program, since its inception in 1969, towards helping teachers and students struggling with understanding the world in which they live and work. The GDS program came from the conviction that if students were to deal effectively with an increasingly interdependent world as adults, they must develop a knowledge and understanding of it as part of their general education. First under the direction of the Management Institute for National Development (MIND) in New York City, the rationale and principles behind teaching global development were developed in a series of research papers from 1970 to 1972. These culminated in the production of Global Development Studies Model Curriculum, issued in 1973, setting forth a model for curriculum development in global studies for grades 11-14. This work outlined procedures for teaching the theories and principles behind global development through a model course. It was followed, in 1974, by World Food Supply: A Global Development Studies Case Study, which outlined the basic elements of this global problem. This project was designed for use in conjunction with a course in global studies, such as that set up by the Model Curriculum, to tie the theoretical down to 'real world' conditions. It was revised, expanded, and reissued in 1975 and 1976. The next areas of concentration were in teaching methodology and administrative support. These were (and are) carried out through a series of seminars, conferences, and workshops, at both college and school levels and with both international and regional participation.

In 1976, the GDS program, having gained such momentum since its inception as a small part of MIND's work, had reached a point of maturity and reliability where its work could be most effectively carried on as a separate institution. The Global Development Studies Institute was established in April 1976, and moved to its present quarters in Madison, New Jersey in July of that year.

Since 1969, more and more schools and teachers have recognized the need for teaching their students about global realities.

All sorts of courses and approaches have been used, including those based on and using GDS materials. The most natural question now is -- "Does it work?".

This paper has been prepared to help the individual teacher -- in high schools and colleges/universities -- deal with that question in his own classroom. It examines basic approaches and and techniques of evaluation for the teacher to use as best fits his particular situation. Set up to investigate the Purpose and the Process of evaluation, the paper also includes Appendices of specific examples of 'how to'. It is easy, too, in such investigations, to get involved in the professional jargon that can be murky in definition -- "affective", "cognitive", "summative", "formative". Indeed, different professionals in the field often use the same terms for different meanings. To help the reader with this problem, a Glossary is included after the Appendices, to indicate what this author is saying in this report.

As always with GDS materials, this paper is not intended to be ~~the know-all and end-all of the subject matter. Rather, it is~~ intended to set up guidelines and models for teachers struggling with an area of education that demands innovation and individual approaches.

Comments, suggestions, and criticisms are welcome, as the art of evaluation is, by no means, perfected. The author, in addition, wishes to express her appreciation to readers of an earlier draft of this paper for their helpful assistance. Their advice has been incorporated into the study to the extent possible.

J. Carlisle Spivey
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May 1977

DOES IT WORK?

Evaluation Guidelines For Global Studies Teachers

INTRODUCTION

After explaining the why and how of global studies, the most natural question is "Does it work?". Are perspectives being broadened; does the student know basic information about the world; does he see himself as part of that world? If not, why not? Should the teacher be doing more of the same, change, quit trying altogether? Do the course goals make sense at all? These types of questions must be confronted if global studies courses are to be fully accepted in our schools. To do this means undertaking the process of evaluation.

Most global education today is undertaken in the individual class, or, at best, in a small group of classes. Grade-wide and school-wide programs are, indeed, the exception. Professional evaluators work with enormous groups compared with the average class in global education. This means that, in most cases, it must be left to the individual teacher or program director to evaluate his own course. Program evaluation, however, is often the haziest of teaching techniques within the instructor's professional realm.

This paper is designed to provide guidelines to help the individual teacher interested in evaluating his program but who finds himself in complete limbo as far as "how to" is involved. Aimed at the high school and college/university levels, it is not meant to be the definitive study on evaluation theory and technique. The purpose, rather, is to help the struggling teacher by providing basic steps to a process that fits his own situation.

Evaluation procedures should not be equated with giving grades. Grading is a method used in education for rating students against a basic pre-set standard and one another. It has very little to do with those aspects of teaching with which the evaluator is concerned: quality of curriculum, teaching methods and materials, and the actual content that the student has learned.

EDUCATIONAL EVALUATION: THE PURPOSE

The broad purpose of American education is to enable the individual to live effectively in our society. The broad purpose of the evaluation process within education is to ascertain if

the educational process has been successful. In so doing, it includes testing the course's effect on students and the effectiveness of the program, the curriculum, the materials, and the teacher, as compared with the stated objectives of the course. Often this process leads to the reformulation of goals and objectives, thereby improving the whole program.

At present, the society that most educational systems prepare their students for is an isolated national/local one. Yet, every day our world becomes more and more interdependent and our society more global. The goal of global education is to give students the ability to live and work effectively in this increasingly global and interdependent society.

Global education comes in many forms, under many names -- global development studies, world order studies, international education, to name only a few. A few objectives, however, are generally universal to all:

- to break down the ethnocentric 'we/they' dichotomy of viewing the world
- to discover that 'yes/no', 'right/wrong' answers have little, if any, connection with the 'real' world
- the development of a 'global perspective', recognizing that the individual, his family, town, state, country are integral factors in world-wide situations (such as world food supply)
- to develop knowledge and understanding of universal factors affecting the global society -- economics, population growth, geography, etc.

These objectives require delving into both the cognitive and affective domains. The cognitive aspect of a course entails specific knowledge which can be tested for: facts, figures, names, dates, places, concepts. The affective aspect infers translation of such data into personal interpretation. The cognitive approach provides the knowledge for understanding how plants grow and provide nutrition for daily activities, and that approximately 460 million people in the world are under- or malnourished. The affective approach provides the insight that the student is part of an interdependent world, and therefore a world problem is his problem. Together, these two aspects join to give the student the ability to adequately confront opinion and action concerning the world food problem; a problem with which he will have to deal in the adult world. In such a way, combining the two aspects of learning encourages students to use cognition to form individual opinions.

Cognitive testing has long been an accepted practice in the field of education. Affective testing, however, is a newer area, still very much under experimentation. Objections to

testing affective learning usually focus on four complaints:

- to consider affective testing is to accept affective teaching which is tantamount to brainwashing
- affective change evolves over too long a period of time to test for reliable results after merely the time period of one course
- the affective part of a person's life is private and, therefore, to undertake such testing, is an invasion of privacy
- affective knowledge concerns values and it is not proper to afix grades to values.

To advance any one or any combination of these objections is to misunderstand the purpose of both education and evaluation. In answer to the first general objection: education involves not only learning facts -- cognition, knowledge -- but also how to use these facts to form valid opinions. This includes knowing how and when to question 'givens', how to weigh different information and their sources for validity, how to form and test hypotheses, and how to draw conclusions using the student's own beliefs and values. It also means learning how to re-examine one's conclusions when new information is available. These skills are part of the learning process. Rather than suggesting 'brainwashing', they guard against that threat by enabling the student to form his own ideas.

As to the second objection: significant results of education occur in both the short and long term. To this extent, it is true that all changes effected by global education cannot be evaluated the day the course concludes. The same is true of traditional courses such as literature. Some valuable shorter term changes in a reading course, for example, can be evaluated by testing such factors as comprehension, speed, vocabulary, and difficulty of text. But the objectives of teaching reading go beyond the mechanics of translating cryptics into language. It also includes teaching the 'values' of reading -- that it is a source of knowledge and of entertainment. It is this affective aspect that gives reading its greatest value. This recognition may not appear to the student in totality, or even at all, at the conclusion of one course in reading. It may take practice with the newly acquired skill to evaluate fully the overall effect of the course. But this does not mean that evaluation will not reveal valuable information about the course, and its teaching, at its end. There is still much knowledge to be gained from testing procedures, though change may continue after the testing process. And so it is, too, with global studies -- evaluation may not reveal all possible results, both short and long term, to be acquired from the course; but it will give significant indications of the degree of the course's success in reaching its objectives.

Third, the purpose of affective testing is not to pry into a student's most private thoughts and values. It is concerned with finding out if, and to what degree, the student has acquired the understanding needed to make and question his own decisions and decide his own values. In this way, there is no threat of invasion of privacy.

Finally, when the teacher undertakes course evaluation, grades have no place and should be ignored. The purpose is to gather information to weigh the worth of the course design, materials and methods, and its teaching in reference to the course goal. This is separate from comparing student achievement with a pre-set standard or with that of other students. There is never a question of 'grading values'.

Just as there are two types of domains for testing -- cognitive and affective -- there are also two foci -- formative and summative. The two differ in purpose, time factor, and level of generalization. Summative testing is designed to observe overall results of an entire course or substantial parts of it. Such evaluative techniques are used to test teacher effectiveness, to ascertain if students have grasped the overall subject, and to compare curricula effectiveness. Formative evaluation is used during the teaching process rather than at the end. Its purpose is to observe curriculum construction and adaptation, teaching, or learning, in order to improve any one or all of them. This aspect of testing involves independent units of a course, rather than overall results of a program. Both summative and formative testing are important to the teacher's evaluation process: to see if a course 'works' and why.

EDUCATIONAL EVALUATION: THE PROCESS

The teacher who undertakes an individual evaluation of his global studies course has several advantages over the 'professional' evaluator working with enormous groups:

- he knows the nuances of his test group
- he can be more flexible with time and method
- he has greater insight into the situation and more freedom in applying his gained knowledge for change and improvement.

His biggest handicap is lack of a large data bank which comes with sizable groups. Testing on a large scale provides plenty of generalizations in handy, easy-to-use numerical form that provides 'proof' for the evaluator's results. The individual teacher's 'proof' rests on knowing his students and on the evidence of actual events: citing responses and changes in attitudes, interests, and behavior. The best aid he can have in this undertaking is the cooperation of his class. Students are understand-

ably wary of testing, especially at the high school level where college acceptance is so dependent on grading, class standing, and test scores. It must be clear to students that it is not the success or quality of their performance that is being judged, but that of the curriculum, teaching methods, and materials.

The first step in the evaluation process is to set up the framework. Without conceptual control over the complex variety of events involved in this type of task, the teacher will be swamped by a bewildering mass of information. A succinct design for the project will serve to plant the teacher's work firmly in reality and to provide a practical system for 'reading' the results, making the study a useful, rather than merely an academic,procedure. The framework is not an evaluation technique itself; rather, its job is to set the stage for the evaluation process. As such, it calls on the evaluator/teacher to:

- define the goals of his course
- outline the evaluation procedure and the purpose of each project within that procedure
- plan for methods and materials (input) and for expectation of achieved learning and understanding (output)
- specify evidence (indicators) chosen to verify output
- state assumptions about students, methods, materials, and the teacher, that are made in choosing indicators and planning for output.

A useful framework to adapt is one designed by the Department of State's Agency for International Development: the Project Design Summary Logical Framework, used for evaluating development assistance programs. More information on the 'logical framework' and its use can be found in Appendix A (page 15).

In using the 'logical framework', or any other outline the teacher chooses, several criteria are necessary for best results:[1]

- the tester should be as objective as possible
- goals, assumptions, and conclusions must be operationally useful
- reporting must be done in a form readily understandable to those using the results
- the tester should not just be measuring progress, but also questioning the premise on which the project is based.

This may seem a tiresome and overly complex chore, but it is

[1]Office of Program Evaluation, U.S. Agency for International Development, Evaluation Handbook, second edition (Washington, D.C.: U.S. Department of State, 1974), p. 35.

a necessary one. It has the value of enabling the evaluator to recognize his own assumptions and weigh them against what he feels are basic standards for an effective course. It also allows those who are interested in his results to understand the process and reasoning behind them. Finally, it sets up a schedule and work-plan to simplify the task facing the evaluator.

Within this framework, basic questions need to be answered:

- WHY were the specific course objectives chosen
- WHAT is to be learned
- WHO is involved with the procedure
- HOW is the study being done.

The answers to these questions are critical to the teacher's understanding of his evaluation as well as for outsiders who will try to make use of it. The questions are often interrelated and the answers will depend on the individual circumstances of each situation.

Question 1: WHY?

This question requires the evaluator to define the purpose of of the course in concrete terms. Some examples of indicators of course goals for students might be:

- to understand the continuing interrelationship of of major global issues
- to include historical, political, social, cultural, and economic factors and their interactions when discussing global issues
- to defer from assigning 'right/wrong' labels when discussing global issues. Instead, the emphasis should be on the fluctuating factors involved and the varying cultural viewpoints towards them.

Course design and evaluation are integral.[2] With implementation, they make up a cycle for educational improvement and innovation. Therefore, at the same time that the evaluator is outlining his course goal, he will also want to underline the purpose of his evaluation process. Evaluation goals might be:

- to determine the extent to which course goals are being met
- to determine the extent to which materials used assist or facilitate meeting course goals

[2]Office of Development Program: Review and Evaluation, Project Evaluation Guidelines (Washington, D.C.: Agency for International Development, U.S. Department of State, 1974), p. 1.

- to determine areas of needed improvement.

The most important consideration is that these goals be stated in terms that are both operationally useful and readily understandable.

Question 2: WHAT?

Having defined the goals, the next step is to identify the various objectives that will lead to achieving them. In other words: WHAT is to be learned -- by the teacher as well as by the students? This question involves citing and describing the various objectives and their levels of priority that make up the overall goal of the course. These will depend on the educational philosophy of both the school and the teacher. This question involves the skills and information necessary for reaching the stated goal, and the indications of achievement of these objectives.

The information derived from this section should result in an outline of the course and a description of the materials and methods (inputs), evidence of assumed results (indicators of outputs), assumptions upon which the validity of these indicators are based, and hypotheses drawn as to the causative links between inputs, outputs, objectives, and goals (See Appendix B for example).

Finally, the teacher must question not only the content involved, but whether the objectives he has set up are both possible to achieve and desirable to the goal. As with goal statements, objectives must be described in operative terms that can be easily understood by 'outsiders'.

Having drawn together this information, the evaluator will be able to see if, indeed, his inputs help produce the desired output which leads to achieving the stated objectives on the path to reaching the course goal.

Question 3: WHO?

The question 'who' includes "who is the test group", "who wants to know", and "who is the teacher". The first calls for relevant descriptions of the class, including:

- what is the group's 'starting point' for the course course
- what are their attitudes toward certain global issues
- what is their orientation, both in and out of school, for the course
- what skills do they bring with them to the course

- what are their reasons for taking the course
- what are their number, age, etc.

The teacher, wishing to answer 'who' as far as his class is involved, will doubtless wish to do a pre-test of his students to indicate better where they are as far as his course is concerned. This form of testing, as well as other evaluation techniques, is discussed in the final 'HOW' question section.

Answering the question "who wants to know" will help the teacher focus his evaluation goals and course objectives, as well as the language of this final report of results. Is the testing done for his own benefit so that he can improve the course; is it done to convince the school board that he should be allowed to teach the course again; is it done for department heads to convince them that the orientation of other courses should contain skills that will prepare students for his course?

Finally, the question "who is the teacher" must be answered. Has he had prior experience with the course? What training has he had? In what discipline of the course is he the weakest? What impact does this weakness have on the course? What has the impact of the course been on his own thinking about the subject? A History teacher, for example, who undertakes a course in global studies, may find that his own ignorance of biological systems hampers explanation of water pollution as a world problem. The recognition of this weakness may lead him to plan interdisciplinary approaches with the help of a colleague in the Science department.

Question 4: HOW?

The question of 'how to' is, of course, of greatest concern to the teacher about to actively undertake the evaluation process. This is especially true for the generally unfamiliar area of affective testing. Following are descriptions and explanations of various evaluative techniques that have been found useful by teachers struggling with similar evaluation problems. Examples of many of these testing techniques may be found in Appendix B. Teachers will want to use these general discussions and specific examples as guidelines and models to be used in the manner best suited to individual and specific situations.

The evaluator of a global studies course is looking for evidence of the development of four types of knowledge:

- concrete facts
- knowledge comprehension: interpreting facts
- an increased global perspective for understanding issues
- an understanding that education is not only memorization of facts, but a recognition of relationships and a questioning of concepts.

Evaluation techniques come in myriad 'packages' in structured or unstructured settings, among them: observation and testing; individually or in groups; written or oral; question/answer or discussion.

The reader will note that many of the following techniques are familiar to the teacher as traditional tests for grading purposes. He should always remember, however, that the objectives behind the evaluation procedure and those for testing are quite different.

Interviews

A particularly effective method for the teacher undertaking evaluation of a single class or small group is the interview, either structured or unstructured. In the structured setting, the interviewer prepares a sequence of specific questions with fixed wording. His role is directive: to present the question and record the student's answer. The only deviations allowed are to clarify any misunderstandings related to the questions. The teacher's role in the unstructured interview is non-directive. He has a limited number of key questions about pertinent topics to achieve the greatest desired analytic information from the conversation.[3] The interviewer's role is to listen, rather than to lead the converstaion, and to probe for ideas not immediately attributable to the key question.

The unstructured setting has several advantages over the structured: it affords broader and deeper information through personal expressions; it can suggest ideas for teaching and writing; it can test the validity of structured testing information.[4] In short, it can put meat on the skeletal structured approach. The major disadvantage of the unstructured approach is that it is quite time-consuming. Further, while the atmosphere of the unstructured interview is much more relaxed, the interviewer must be careful not to lead or otherwise influence the respondent's answers.

Research

Research projects can provide information about the student's ability to create, interpret, and apply knowledge. Because of the time factor involved in an entire research project, however, this process might be limited in interpreting change in skills due to the course's effect. Asking the student to describe how he would go about planning and researching a particular topic or project can provide similar insights with a time advantage. This is particularly true if the problem presented

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[3] Ibid., p. 237.

[4] Ibid.

to the student requires the use of previously learned material in a never-before experienced capacity. For example, the student, having studied the factors involved in the increase in the price of oil world-wide, may be asked how he would investigate the increase in the price of coffee. Although he has not studied Brazilian Development, there are comparable relationships upon which he may draw, thereby demonstrating his grasp of certain concepts of development in general -- such as effects of tariffs and supply/demand relationships. Such projects can also give the teacher an indication of the student's awareness of the necessity to know the background, purpose, and slant of input material.

Written Tests

Four types of written testing are very useful for evaluating global studies courses:

- objective and essay questions measuring knowledge and its application
- Interest Scales measuring degrees of student interest in the various areas of the course
- Semantic Differential scales measuring student attitudes
- Likert Scales measuring student attitudes.

- Objective and Essay Questions:

Well familiar objective and essay questions are those best suited for testing cognitive knowledge and the student's ability to apply this knowledge to problems with which he is not familiar. Objective questions need not simply be 'recall' tests. Questions in reference to described problems, graphs, or pictures will elicit information about application skills, as well. Care should be taken in presenting essay questions to insure obtaining the type of analytical information that the teacher desires. It is better, for example, to ask the student to "compare and contrast" rather than to "discuss" or "write about" a topic.[5] Caution also should be taken to insure that the evaluator does not mistake a student's ability (or lack of ability) to express himself well with his knowledge and ability to apply information.

- Interest Scales:

This technique is designed to measure student interest in the subjects of the course. Simple in construction, it is made up of four options which represent varying degrees of interest:

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[5]Stadsklev, Handbook of Simulation Gaming in Social Education, Part 1: Textbook (University, Alabama: Institute of Higher Education, 1974), p. 113.

A. Dull
B. Generally uninteresting
C. Generally interesting
D. Very interesting.

These are to be used by students to rate certain topics with the course. For example, the class is asked to rate the fol as to how interesting they find them:

1. World Food Supply
2. Brazilian Development
3. Study of Comparative Economies.

Points of comparison can be assessed by including topics -- such as sports -- other than those included in the course material.[6]

To 'read' the results of an Interest Scale, give a weighted value to each of the four options offered: for example, starting with four points for 'very interesting', ranging to one point for 'dull'. In this way, a class mean can be established. This information can be useful when compared with successive Interest Scale results given during the teaching of the course. The teacher can follow the effect of the course and note where extra emphasis or change in approach is desired.

- Semantic Differential:

This technique, another designed to measure student attitudes, focuses on the images and meanings that students ascribe to certain ideas or objects. The evaluator sets up a series of descriptive bipolar adjectives or adjective phrases, making sure sure that the exptremes lie along the same continuum: "stupid/smart", "important/trivial", "energetic/lazy". Students are asked to choose one of seven points between these two adjectives -- the first point lying at one extreme, the last at the other extreme. For example the teacher asks his students:

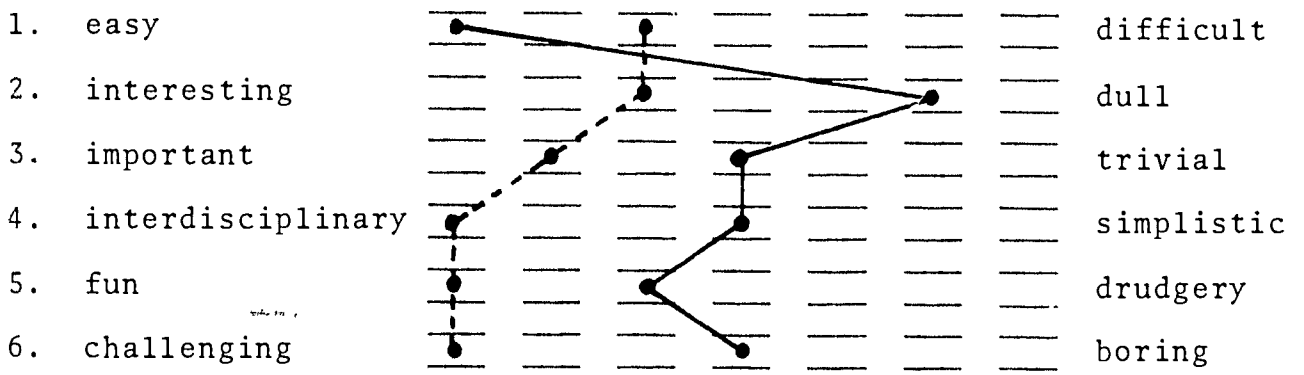
YOUR VIEW OF GLOBAL EDUCATION

1.	easy	✓						difficult
2.	interesting					✓		dull
3.	important				✓			trivial
4.	interdisciplinary				✓			simplistic
5.	fun			✓				drudgery
6.	challenging				✓			boring

[6]Ibid., p. 115.

. teacher then assigns a value from one to seven for each
t between the extremes. Averaging the scores for each
, he can find a mean for each adjective set. These can be
pared with the results for other views and with the results
the same views at different times. These results can be
aphically demonstrated by constructing profiles of the stu-
ent responses:

)UR VIEW OF GLOBAL EDUCATION



_____ pre-test

------ post-test

- Likert Scale:

The Likert Scale, too, is used to measure attitudes. The evaluator draws up a series of statements that will indicate attitudes relevant to global studies:

- Poor people are lazy
- Indians should have fewer babies
- Western former-colonial countries are to blame for the difficulties of the developing nations.

The students respond to these statements on a five point continuum: strongly agree, agree, uncertain, disagree, strongly disagree. The statements should be meaningful, interesting, and as clear as possible to the students. Unsuccessful use of the Likert Scale technique is usually due to the failure of the statements to arouse the students' interest or to students skipping statements because they are uncertain of their meaning.[7]

Using the students' responses, a class mean can again be established for each statement, using the same methods as in the last two examples. These means can be useful in demonstrating changes during the course.

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[7]Ibid., p. 120.

SUMMARY

These techniques may be used effectively for both summative (long-range) and formative (short-range) evaluation. The use made will depend on the teacher and on his individual evaluation case.

Here, again, emphasis is needed to stress the importance of making the students feel part of the testing process, convinced that they are not being critically judged and may, therefore, be candid in their thoughts and expressions. One way to achieve this is by insuring anonymity to the students at times. A number or letter code may be set up where the teacher does not necessarily identify the student with his answers. An essential part of the evaluation process is the reactions of the students to the course, its content, teaching, and what they feel they have gotten from it. A good technique for getting students used to expressing such opinions, is for them to keep a journal of their experiences and reactions to the course during the time that it is taught.

Testing and other evaluation techniques are essential tools for the teacher/evaluator to use in compiling information to improve instructional technique. But this information cannot stand by itself. As such, it can only identify trends and assumptions. It must be combined with what the teacher knows to be the special characteristics of his students. Once these have been weighed, he is then in the position to interpret the evaluation results in the context of his particular class and course objectives. These statements are backed up by individual cases of evidence that the teacher has compiled during the evaluation. The strength of his results cannot rest on numbers, but on case in point. This he presents in the form of an analytical summary of what he has learned with accompanying proposals for applying this knowledge to future plans.

APPENDIX A

The 'Logical Framework'

This appendix describes the construction and use of the 'logical framework', as adapted from the model used by the Agency for International Development of the U.S. Department of State. In such a discussion, it is useful to first repeat the purpose of such a framework in the teacher's undertaking of the evaluation process (from page 5):

-- define the goals of his course
- outline the overall testing procedure and the purpose of each project within that procedure
- plan for methods and materials (input) and for expectation of achieved learning and understanding (output)
- specify evidence (indicators) chosen to verify output
- state assumptions about students, methods, materials, and the teacher, that are made in choosing indicators and planning for output.

Although the design may change according to the individual teacher's specific needs and challenges, the basic logical framework matrix looks like the grid in Chart 1 (page 17). The purpose of this framework for analysis is to set up, for the evaluator -- and for those who would study his results -- a system that will[8]:

- define, in measurable or objectively verifiable terms, project inputs, outputs, program goals, and objectives to reach those goals
- establish the indicators which will permit subsequent measurement or verification of achievement of the defined outputs, objectives, and goals

[8]Agency for International Development, The Logical Framework - Modifications Based on Experience (Washington, D.C.: State Department, 1973), p. 1.

- identify external influences and factors (assumptions) which will affect linkages between inputs, outputs, objectives, and goals.

A simple way to explain this framework is to work through a simple sample situation. Chart 2 (page 18) is an example of the type of framework that could be set up for a typical course in global studies.

From this information, the evaluator can draw hypotheses about the causative (means/end) linkages between the inputs, outputs, objectives, and goals.[9] The evaluation process checks these hypotheses for the overall course, at the same time monitoring progress from the level of input to that of output, then to objectives, and finally to the goal itself. The diagram in Figure 1 (page 19) suggests basic questions to pursue in this process.

Using the model course outline in Chart 2, the answers to the linkage evaluation questions in Figure 1 might be:

Q. What types of inputs produce the best results? How might better results be obtained?

A. Case studies increase depth of understanding by taking the concepts of global development and tying them down to "real world" instances. Presenting two case studies at once -- an area a and an issue, for example -- would strengthen the student's ability to apply knowledge.

Q. What are the key elements that assured success thus far in achieving goal objectives?

A. Basic understanding of economic principles has greatly increased the depth of the students' understanding of previously learned history and current events. More study of government theory and institutions in combination with economics would result in a better understanding of the relatedness of factors of development.

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[9] Ibid.

Q. What are the key elements that assured success thus far in achieving the goal?

A. Understanding the continued interrelatedness of factors helps the student refrane from superficial 'right/wrong' answers to complex global problems. A case study of his own community as a developing area would increase the 'global' perspective of the student's image of himself, his family, his community, state and nation, understanding that 'different' does not necessarily mean 'wrong'.

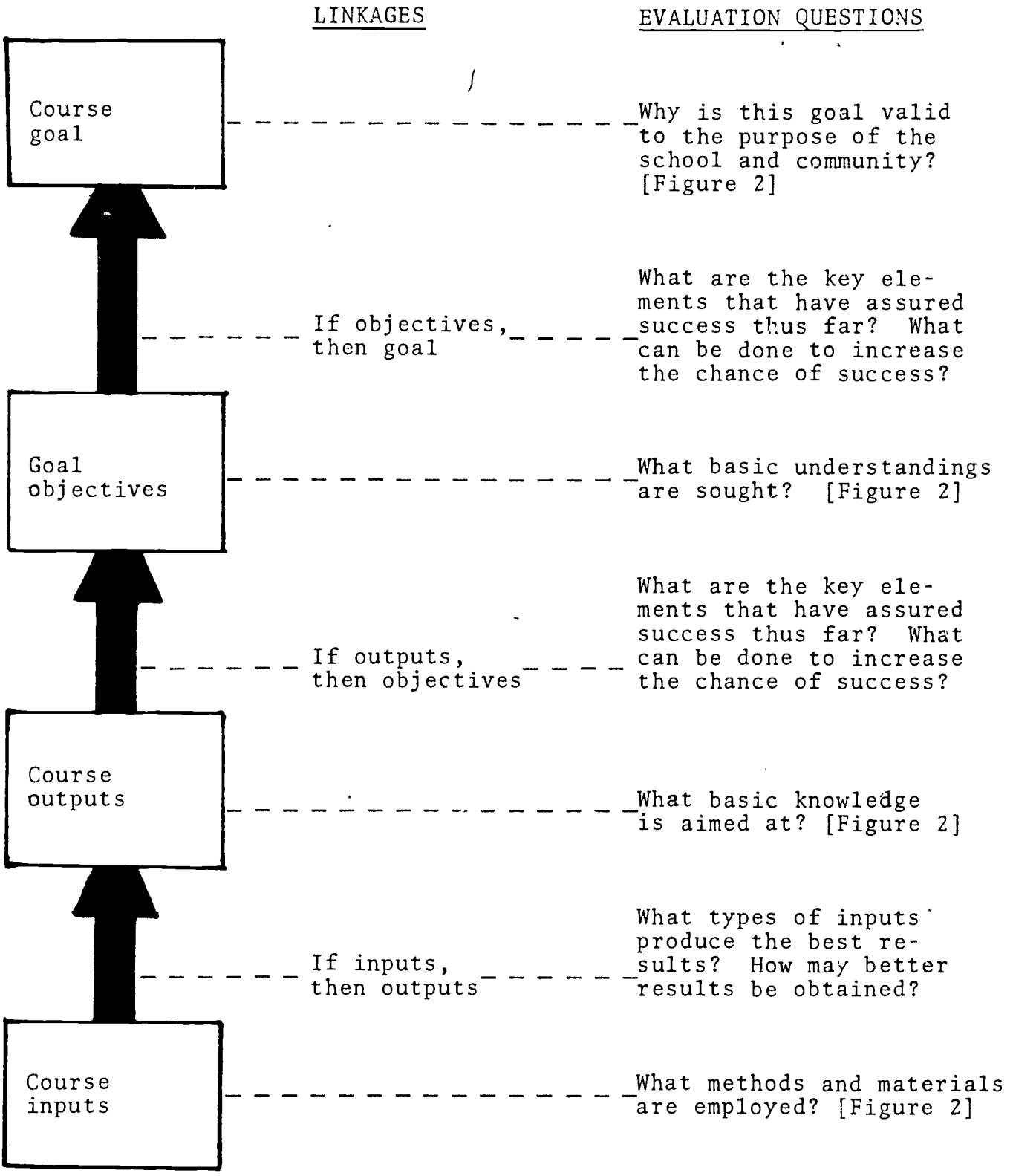
CHART 1: LOGICAL FRAMEWORK

NARRATIVE SUMMARY	INDICATORS	EVIDENCE	ASSUMPTIONS
Course Goal: [what is the general purpose of the course?]	[what are the measures for goal achievement?]	[what are the means for verifying the indicators of achieving the course goal?]	[what assumptions were made in determining what evidence would validate the indicators of goal achievement?]
Goal Objectives: [what combination of basic understanding will result in meeting course goals?]	[what conditions will indicate achievement of goal objectives?]	[what are the means for verifying the indicators of achieving the goal objectives?]	[what assumptions were made in determining what evidence would validate the indicators of achieving the goal objectives?]
Course Output: [what achieved learning is expected?]	[what learning is deemed necessary for achievement of goal objective?]	[what are the means for verifying the indicators of achieving the desired course output?]	[what assumptions were made in determining what evidence would validate achievement of course output?]
Course Input: [what methods and materials are being used?]	[what type and quantity of information is made available by these methods and materials to achieve the desired output?]	[what are the means for verifying the indicators of the worth of the methods and materials cited?]	[what assumptions were made in determining what evidence would validate the worth of course input?]

CHART 2: LOGICAL FRAMEWORK
(An example only, not representative of an actual course)

NARRATIVE SUMMARY	INDICATORS	EVIDENCE	ASSUMPTIONS
Course Goal: - to broaden the student's perspectives to a more global outlook to prepare him for the interdependent world he will meet, live, and work in as an adult.	- when discussing global issues, the student ties each with other issues in a continuum - the student avoids 'we/they' analyses - the student avoids 'right/wrong' analyses	Interviews Student evaluations of course Objective testing Research projects	- the student is relaxed enough to make candid observations - the teacher is candid in his analysis of the evidence collected
Goal Objectives: - to recognize factors of development - to recognize the interrelatedness of these factors	- when discussing global issues, the student includes economic, social, historic, cultural factors - when discussing one of the above factors, he does so in the context of the others	Research projects Debates Objective testing Essay questions In-class discussion	The student has access to the library The student is used to expressing himself verbally The student is used to expressing himself in writing
Course Output: - a basic understanding of Economics - a basic grasp of research techniques - a basic grasp of statistics - a basic understanding of Geography	Understanding principles of supply and demand Understanding tariffs and price supports Ability to read charts and graphs Geographic knowledge of continents, climate, resources, topography	Objective testing Plans for research Group reports In-class discussion	The student has access to the library The student has access to the course inputs The student can express himself verbally The student is provided in-class and out-of-class time to meet and work in groups
Course Input: [List] Texts, other materials Films Maps Community speakers with development experience Teacher: experience and academic background	- basic information on development concepts - basic geographic information - basic economic information - an understanding that 'global'= 'real world' - prepare student to support and trade ideas	Films and materials suggested by an organization specializing in global development education Group Reports: all members responsible for various parts, then made into a whole presentation Objective testing	- the student has a Math background adequate for discerning economic relationships - the advising organization has successful experience in its work - the teacher knows his students well enough to make up workable groups

FIGURE 1


LINKAGES
EVALUATION QUESTIONS
Course goal
Why is this goal valid to the purpose of the school and community? [Figure 2]
If objectives, then goal
What are the key elements that have assured success thus far? What can be done to increase the chance of success?
Goal objectives
What basic understandings are sought? [Figure 2]
If outputs, then objectives
What are the key elements that have assured success thus far? What can be done to increase the chance of success?
Course outputs
What basic knowledge is aimed at? [Figure 2]
If inputs, then outputs
What types of inputs produce the best results? How may better results be obtained?
Course inputs
What methods and materials are employed? [Figure 2]
START HERE
START WITH 'INPUTS' AND MOVE UPWARD, FOLLOWING ARROWS

APPENDIX B

Testing Models

This appendix contains examples of the written testing techniques cited in the preceding paper. The SURVEY QUESTIONNAIRE ON GLOBAL DEVELOPMENT is taken or adapted from "Inventory -- Global Poverty/Development", an exercise designed by World Neighbors; Kathleen Desmond, Development: Bridge to Peace (Washington, D.C.: American Freedom From Hunger Foundation, 1970); Church Women United Survey designed by Chris Cowap; and various Overseas Development Council publications. It can be found in Focusing on Global Poverty and Development: A Resource Book for Educators, by Jayne M. Wood, published by the Overseas Development Council in Washington, D.C. Many global studies teachers have found it a useful tool for evaluation. The questions found for the Likert Scale are also part of this excellent resource book. The Semantic Differential comes from Handbook of Simulation Gaming in Social Education (Part 1: Textbook), by Ron Stadsklev and available from the Institute of Higher Education Research and Services of the University of Alabama at University, Alabama.

These examples should be viewed as models, rather than as dictates for testing. Once again, each teacher will want to use them as best befits his individual case.

SURVEY QUESTIONNAIRE ON GLOBAL DEVELOPMENT

The purpose of this exercise is to get an idea of your understanding of and feelings about poverty and development. You are not expected to know the answers to every question. Please write your answer(s) in the blank at the right.

1. What percent of the world's population lives in developing countries? _____

   a. less than 10%
   b. about 75%
   c. about 25%
   d. about 90%
   e. about 50%

2. Approximately what percent of the world's population does the United States have? _____

   a. 3%
   b. 12%
   c. 6%
   d. 15%
   e. 9%

3. Approximately what percent of the world's wealth does the United States have? _____

   a. about 15%
   b. about 50%
   c. about 25%
   d. about 65%
   e. about 35%

4. Which three continents contain the majority of developing countries? _____

   a. Asia
   b. North America
   c. Africa
   d. Latin America
   e. Australia
   f. Europe

5. Which three of the following countries have the highest rate of population growth? _____

   a. India
   b. Honduras
   c. Saudi Arabia
   d. Japan
   e. Nigeria
   f. U.S.
   g. Mexico
   h. China (Mainland)
   i. Portugal

6. Which three of the following countries have the lowest rate of population growth? _____

   a. India
   b. Honduras
   c. Saudia Arabia
   d. Japan
   e. Nigeria
   f. U.S.
   g. Mexico
   h. China (Mainland)
   i. Portugal

7. Which three countries in the following list have the largest populations? _____

a. Pakistan & Bangladesh
b. Venezuela
c. Nigeria
d. Germany
e. Mexico
f. Japan

8. In which region do you think one would find the lowest rate of literacy? _____

a. Asia
b. Oceania
c. Latin America
d. Europe
e. Africa
f. North America

9. What is the "green revolution"? _____

a. a guerilla war
b. a back-to-the-land movement
c. a breakthrough in food production
d. a victory for new kinds of pesticides
e. a new method of cutting back tropical overgrowth.

10. Which five countries do you believe have the highest standard of living based on per capita income or GNP per capita? (This figure is obtained by dividing the total output of a country -- total GNP -- by its total population.) _____

a. Kenya
b. Czechoslovakia
c. Ecuador
d. South Vietnam
e. South Africa
f. Mongolia
g. Argentina
h. India
i. Libya
j. Denmark

11. Which five countries do you believe have the lowest standard of living based on per capita income or GNP per capita? _____

a. Kenya
b. Czechoslovakia
c. Ecuador
d. South Vietnam
e. South Africa
f. Mongolia
g. Argentina
h. India
i. Libya
j. Denmark

12. Which item do you think receives the biggest "chunk" of the U.S. budget? _____

a. foreign aid
b. military
c. health programs
d. educational programs
e. government operations
f. welfare programs

13. What percent of the U.S. GNP do you think goes to foreign assistance? _____

a. about 25%
b. about 5%
c. about 15%
d. under 1%
e. about 10%

14. Do you think that U.S. aid to developing countries as a percent of GNP is: _____

a. more than that of any other developed country
b. more than most developed countries
c. about the same as other developed countries
d. less than many other developed countries

15. Using the percent-of-GNP formula, where does the U.S. rank among all other countries in money given to the United Nations? _____

a. 1st
b. 52nd
c. 12th
d. 65th
e. 35th

16. In 1958, a Central African earned enough money, from selling us 200 pounds of cotton, to buy four blankets. How many blankets could he buy today for the money earned from selling the same amount of cotton? _____

a. 1 b. 4 c. 8 d. 12

17. Unemployment in the developing world ranges from _____ of the labor force. _____

a. 20-25%
b. 13-15%
c. 5-8%
d. 1-3%

18. The average protein intake of each person in the U.S. is about 96 grams per day, in India it is: _____

a. about the same
b. 1/2 as much
c. 3/4 as much
d. 1/3 as much

19. If current population growth rates are maintained, the number of people in the world will _____ by the year 2000. _____

a. remain about the same due to an increase in the practice of birth control
b. increase by 15%
c. double itself
d. be increased by 50%

20. The people of the United States make up less than 7% of the world's population, yet they use about _____ of the world's non-renewable resources (such as aluminium, iron, and natural gas). _____

a. 40%
b. 65%
c. 75%
d. 90%

ANSWERS TO SURVEY QUESTIONNAIRE

1. b. about 75 percent

2. c. 6 percent

3. e. about 35 percent

4. a. Asia c. Africa d. Latin America

5. b. Honduras e. Nigeria g. Mexico

6. d. Japan f. U.S. i. Portugal

7. a. Pakistan and Bangladesh d. Germany f. Japan

8. e. Africa

9. c. breakthrough in food production

10. b. Czechoslovakia e. South Africa g. Argentina
i. Libya j. Denmark
(Remember: per capita GNP is an average figure and doesn't indicate distribution of wealth. Some of the poorest countries have very rich sectors in their population, and this will pull up the average figure.)

11. a. Kenya c. Ecuador d. South Vietnam
f. Mongolia h. India

12. b. military

13. d. under 1 percent

14. d. less than many other developed countries

15. b. 52nd

16. a. 1

17. a. 20-25%

18. b. one half as much

19. c. double itself

20. a. 40 percent

INTEREST SCALE

Directions: You are asked to rate the following topics in terms of how interesting you think they would be to study:

A. dull
B. generally uninteresting
C. generally interesting
D. very interesting

There are no right answers; only your opinions are sought.

1. Politics
2. World Food Situation
3. Population Growth
4. National Customs
5. Tariff Policies
6. Foreign Aid
7. National Monuments
8. Comparative Economic Systems
9. National Costumes
10. Poverty

SEMANTIC DIFFERENTIAL

Directions: In this test we want to find out how you describe different things. As before, there are no right and wrong answers. You will find a word printed like this:

GEOGRAPHY

Look at the word; get an idea of it in you own mind. Below the word you will find a number of words which describe geography. These words are put in pairs that have opposite meaning. Between the meanings are seven spaces. You are asked to fill in the space that you feel best describes geography. The first has been done as an example.

GEOGRAPHY

Logical	✓	Illogical
Meaningful		Meaningless
Hard		Easy
Clear		Unclear
Important		Unimportant
Useful		Useless
Analytical		Descriptive
Important for the Future		Not important for the Future
Interesting		Uninteresting
Precise		Vague

LIKERT SCALE

Directions: Each of the following statements is followed by five responses. Indicate how you feel about each statement by circling one of the responses:

SA if you "strongly agree"

A if you simply "agree"

UN if you are "uncertain"

DA if you simply "disagree"

SDA if you "strongly disagree"

There are no right answers; only your opinions are sought.

1.	People are poor because they are lazy.	SA	A	UN	DA	SDA
2.	Most Americans have an accurate idea of how Africans live.	SA	A	UN	DA	SDA
3.	If poor nations would adopt the U.S. economic and political systems of capitalism and democracy, they would develop more rapidly.	SA	A	UN	DA	SDA
4.	The U.S. government should spend more to help developing countries.	SA	A	UN	DA	SDA
5.	Poverty in the U.S. and poverty in the developing countries of the world are not really related in any way.	SA	A	UN	DA	SDA
6.	If developing countries would adopt a Communist Chinese economic and political system, they would develop more rapidly.	SA	A	UN	DA	SDA
7.	Discrimination and oppression cause poverty around the world.	SA	A	UN	DA	SDA

GLOSSARY

The purpose of this brief Glossary is to give the author's usage of terms employed in the foregoing paper, which otherwise might cause confusion for the reader.

AFFECTIVE DOMAIN: That area of thought derived from interpretation through one's values and feelings, rather than through perception, reasoning, or intuition.

ASSUMPTIONS: External influences and factors affecting the the links from course input through achievement of course goals.

COGNITIVE DOMAIN: That area of thought derived from perception or reasoning. Knowledge.

FORMATIVE TESTING: 'Short-range' evaluation. Used during the teaching process, rather than at the end, its purpose is to observe the parts, rather than the whole of curriculum design and adaptation, teaching, or learning.

GOALS: Within the context of the evaluation process, the goals of a course describe the main purpose of it.

INDICATORS: In the evaluation procedure, the various factors that permit verification of achievement of outputs, objectives, and goals.

INPUT: Within the context of the evaluation process, the teaching methods and materials -- texts, films, simulations, speakers, etc. -- of a course.

INTEREST SCALE: A testing technique to discern student attitudes through their degree of interest in certain subject or topic areas.

LIKERT SCALE: A testing technique to discern student attitudes through the degree of validity they assign to certain judgmental statements.

LOGICAL FRAMEWORK: A method for setting up the design for an evaluation procedure that provides the teacher with a clear understanding of that process. Adapted from the model used by the Agency of International Development of the Department of State.

OBJECTIVES: Within the context of the evaluation process, the objectives of a course describe the various factors that make up the course goals.

OUTPUT: Within the context of the evaluation process, the learning and understanding achieved through the course input that will lead to fulfilling the course objectives.

SEMANTIC DIFFERENTIAL: A testing technique to discern student attitudes through the degree of value they assign certain ideas or objects.

SUMMATIVE TESTING: The purpose of this 'long-range' testing is to observe overall results of an entire course, or substantial parts of it.

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