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THE UTILIZATION OF A PERFORMANCE BASED CURRICULUM DESIGN IN  
GRADUATE SOCIAL WORK EDUCATION

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ABSTRACT

As a developing profession, social work is increasing its efforts to utilize systematically concepts from the field of education in its professional training. This research examines the use of a performance based curriculum design in the teaching of a graduate social work course. Results of this study support the use of this approach from the perspective of improved student performance.

Interest in the use of performance based objectives in education stems from a concern that material be presented to students in ways that maximize learning opportunities and add precision to the measurement of mastery of knowledge and skills. Placing emphasis on development of a framework for teaching provides a way of reducing ambiguities. The value of clearly stated objectives for learning is demonstrated when learning becomes focused, goal-oriented and students understand what to do and how to do it.

Goals of learning are frequently presented in general terms out of a fear that specifically articulated objectives will lead to preoccupation with trivia. Arkava and Brenner (1976:17) write:

There are dangers inherent in the move toward greater specification of our curriculum objectives. One of the more obvious dangers is that of becoming preoccupied with trivia. Competency-based education programs may lead to focus on innumerable and sometimes irrelevant details.

The alternative, to present goals in very general terms, however, often contributes to difficulty in the teaching-learning process. Failure to specify clear learning objectives creates serious problems in the evaluation process. Without specific objectives, instructors are forced to write global questions which rely heavily upon more subjective evaluations of performance. If learning outcomes are not clearly defined, then the power of these instruments to achieve their purpose becomes severely limited. The degree of confidence in the validity of the measurement instrument is determined by the extent that it reflects achievement of objectives.

In the last decade competency based forms of instruction have come into vogue in social work education. Recognizing that if the goal is to educate social workers who are able to achieve a level of competency that is commensurate with the demands of practice, social work education must establish a structure within which competency

can be measured. Larsen and Hepworth (1978:79) write: "In addition to skill training, competency-based education holds promise as a means of upgrading the quality of social work courses across the curriculum."

Social work education has been criticized for failing to define adequately its theory base and for failing to differentiate the "art" from the "science." Lack of specific objectives in courses of instruction have tended to perpetuate this problem. Without a clear master plan for learning, students are left to fend for themselves in an effort to identify what is relevant. This process is aptly described by Deterline in his observation that it is like trying to learn to play a game but without clear ground rules. Anxieties develop for the student over the prospect of selecting relevant material from an array of learning stimuli presented in the class and through outside readings (Deterline, 1973:3).

Social work practice is changing as the role of the professional is being influenced by innovations in the helping process and by the need to deal effectively with new and developing social problems. There is increased emphasis on development of empirical evidence on the effects of various technologies of practice (Somers, 1969:69-70). This emphasis must begin with the process of teaching and learning in social work education. The use of a performance based model of curriculum would appear to have particular value as this profession refines its skills of both teaching and practice. Armitage and Clark (1975:29) question, "How could anyone conceive of educating for practice without clearly defining the goals and means in behavioral terms?"

There is a limited amount of research on the use of performance based curriculum in social work education. Most notable is the University of Montana project where a practice competency examination for baccalaureate social work students was developed to assure that graduates had the necessary skills for professional practice (Arkava and Brennan, 1976). The University of Calgary implemented a competency-based program at the bachelor's level which included an effort to develop objectives for the teaching of attitudes and values (Armitage and Clark, 1975:25). What has been attempted in this study is to examine the value of performance objectives in terms of their contribution to student mastery of knowledge and skills. While the development of objectives for a course of study could be supported on the clarity that this approach provides for students and the advantages for the evaluation of performance, this investigator thought that a more significant position could be developed. If it could be shown that outcome performance was affected positively through the use of this model, then a strong case could be made for exerting the extra effort required to design curriculum using outcome objectives.

#### THE RESEARCH PROBLEM

The purpose of the study was to examine the application of a behavioral objectives model of education in a beginning clinical methods course in the graduate program at the University of Maryland, School of Social Work and Community Planning. The question was whether there would be a significant difference in outcome scores for those students who were given, at the beginning of instruction, an instructional package containing statements of objectives and expected terminal behaviors and those students who were given the course outline currently in use. Four groups were established.

The following investigative questions were central to the inquiry:

Was there a significant difference in the achievement scores for students given an instructional package in contrast to those who were given no outcome information beyond the actual course outline?

Was there a significant relationship between the subject characteristics of sex, age, and previous social work experience and achievement scores under the various conditions studied?

Was there a significant relationship between the subject's academic ability and achievement scores?

#### STUDY DESIGN

An experimental field study was conducted using a four group design with two experimental groups and two control groups. The experimental groups were given, at the beginning of the course, an instructional package containing statement of learning objectives, the learning hierarchy, and the terminal objectives. They were then exposed to a semester of learning. The control groups were given no information beyond the actual learning activities as presented in the course outline in use and exposed to a semester of learning.

The design called for control of the major extraneous variable of the investigator as instructor by including a second instructor. The concern was that this investigator's knowledge of teaching technology and experience in the design of the instructional package would possibly contaminate outcome scores. The second instructor, who had not had this experience, agreed to utilize an instructional package in a second experimental group and taught a second control group.

Following completion of a semester of learning a criterion achievement test was administered to both the experimental and the control groups as a posttest and mean scores were obtained.

#### RESEARCH INSTRUMENTS

An instructional instrument was developed as a study guide for the experimental groups X<sub>1a</sub> and X<sub>1b</sub>. In addition to including information on general purposes and aims of instruction, this package contained specific statements of what behaviors the student would be expected to perform at the end of the course.

This package included statements of: (1) the terminal objectives of the course, (2) the core concepts and processes to be learned and their supporting theories, (3) the cumulative learning sequence, (4) the learning objectives designed as specific behavior or outcome tasks, (5) the specific reading resources related to each unit of study, and (6) the statements of purpose, of aims, and of organizing principles for the course.

In many respects, the statement of the terminal objectives was the most critical and difficult task to achieve.

This effort began with considerable dialogue among the clinical faculty who served as a validation panel of experts about the general objectives of the introductory course.

Our efforts culminated in a statement of terminal objectives which read as follows:

When requested to do so, you should be able to analyze the dynamic, developmental, and process components of a clinical transaction. Your analysis should reflect both your recognition of the organizing principles of clinical intervention and the implicit philosophical and epistemological aspects of help giving and help receiving. You should be able to construct an organizational system which accounts for the various phenomena that occur in this process.

As a result of the dialogue begun by this investigator with the panel of experts, the core concepts and processes to be learned in this course of study and their supporting theories were identified. Based on this work, this investigator developed twenty-three units of study and validated the units as prerequisites for achieving the terminal objectives by submission to the panel of experts.

Units were organized into a learning sequence from basic knowledge outcomes to more complex levels of comprehension and application. Units were developed as foundations of practice (including units on values, traditions, introduction to systems approach, the social agency), the clinical transaction as a process (including units on relationship, communication, contract, and assessment) and the clinical transaction over time (including units on phases of change: beginnings, middles, and ends). Each unit in the hierarchy was designed to build on the learning of the previous units. Students were cautioned that difficulty with a particular learning objective could affect their mastery of subsequent objectives.

Each unit in the instructional package was organized into a three-part design. The first part included a short statement on the aim of instruction. An example of such a statement is the one in the unit on relationship which states:

The idea of a relationship suggests reciprocal emotional involvement. In the clinical transaction the worker-client relationship serves as a dynamic vehicle for expression of needs, of perceptions and of feelings. It is dynamic in that it is in continual change both at the verbal and nonverbal levels. The aim of this unit is to examine how the professional relationship is affected by worker-client perceptions and stereotypes, by the process that is established and by the worker's style.

The second part in each unit identified the resources for learning, including primary texts and other learning material. The third identified the specific learning objectives. An example of such an objective is, "The notion of transaction suggests a multidimensional interactional system. Your understanding of the clinical transaction should be evident in your ability to differentiate between a transactional view of a problem situation from an interactional view and from a linear view." This design proved to be a useful approach; the students had a ready reference of outcome tasks to be mastered, a statement of the instructional goals, and a list of resources that would facilitate the learning of a particular task.

In developing the specific behavior or outcome tasks, Gagne's (1970) guide on the types of learning that a particular task represents and Bloom, et al (1956)

Taxonomy of Educational Objectives were used to describe what the student would be expected to do when the learning was mastered.

The criterion instrument was developed as a performance test to determine whether the students in the study had acquired the terminal behavior of the learning hierarchy. Gronlund's (1968) book, Constructing Achievement Tests, was used as a guide for the planning and construction of the performance test.

Samples of learning objectives for each unit of study in the instructional package were selected for inclusion in the criterion instrument. The clinical faculty who served as a validation panel of experts assured that the items selected reflected the range of learning outcomes they were supposed to represent.

The learning objectives were developed as specific outcome behaviors which could be designed as objective test questions. For the most part, this process required only minor reworking of the behavioral objectives in the instructional package to conform to this requirement. Content validity was assured by the use of the panel of experts to compare the wording of the test questions and the wording of the learning objectives in the learning hierarchy.

A decision was made to construct a performance test which could be objectively scored and which, at the same time, would allow the demonstration of mastery of more complex learning. A two-part test was devised. The first part could be completed with objective responses to multiple-choice and true-false questions. The second part required the student to view a video tape of a clinical interview segment and to base responses to questions asked on this observation. The video tape was developed specifically for use with this instrument. The tape was previewed by the panel of experts to assure conformity between the taped sequence and the questions asked on the instrument.

Test items were arranged sequentially from simplest tasks to more complex outcome objectives. Fifty-three items were included in the first part of the test. Twelve were included in the second part requiring the viewing of a video tape.

#### CRITERION INSTRUMENT RELIABILITY

A computerized test scoring package was used for the purpose of scoring and analyzing the examination responses and for obtaining test reliability. The criterion instrument was pretested for reliability on a group of eleven students who were completing a similar course on another campus of the University. The Kuder-Richardson Formula 20 procedure for estimating reliability was applied to pretest scores and to the final outcome scores.

The Kuder-Richardson Formula provides a conservative estimate of reliability. For a teacher-made test, a reliability coefficient of between .60 and .80 is considered acceptable (Grunland, 1968:96). The reliability coefficient of .75 on the pretest and .69 on the posttest was considered sufficient evidence to support the assumption of reliability of the criterion instrument.

#### EXPERIMENTAL PROCEDURES

The course of instruction occurred over a fifteen week period of time. Students randomly assigned to the experimental and control groups were informed at the beginning of the instructional process that different curriculum outlines would be used

by the various groups under study. The purpose for this was explained as an effort to evaluate different designs. Contamination between experimental and control groups was a possibility in view of the fact that students knew that different curriculum outlines were in use. The decision was made, however, to assume this risk in deference to the importance of informing subjects that they were a part of a study. Through end of the semester discussions with students about the learning experience we were able to ascertain, however, that little if any contamination actually took place.

All students were told at the beginning of instruction that they would participate in a common final examination. The clinical concentration faculty agreed to adopt this same final examination for the entire first year class. The result of this decision was that it removed the sensitivity of this criterion instrument for these particular groups under study and avoided unnecessary discrimination which might have affected outcome measurement.

With the experimental groups, each instructor, during the first class session, handed out copies of the instructional package to each student. The self-explanatory introductory sections of the package were read and discussed in the first class. Instructors emphasized the importance for students to be able to complete each learning objective before proceeding on to the next unit and that the instructor would be available as a resource should they encounter difficulty with a particular objective. The learning hierarchy for this course of study was presented and discussed. Students were informed that the course of instruction would follow this learning pattern.

The control groups were given, during the first class session, copies of the traditional course outline containing general statements of the instructional activities and the course bibliography.

The instructors in the study held bi-weekly discussions in an effort to maintain consistent standards over presentation of course material. Examinations, during the course of instruction, were jointly prepared and administered to both the experimental and control groups. The sequence and timing of presentation of material was coordinated for all four groups.

The criterion instrument was administered as a final examination during a single time period with plans to offer a make-up for those who would not be present for the initial examination. As it turned out, all students were present during the initial examination and a make-up was not necessary.

#### STUDY SAMPLE

The population from which the study sample was drawn was 153 first year, first semester social work students enrolled in the beginning clinical methods course prior to going into their field experience.

The advantage of basing the study on this population insured that the learning of clinical concepts presented in this course would not be supplemented through practicum experiences or prior Master's level instruction.

The study sample consisted of sixty-four students who enrolled in and were distributed among four sections of the basic clinical methods course. Two sections, one under each instructor, were randomly assigned as experimental groups identified as groups X1<sub>a</sub> and X1<sub>b</sub> and thirty-four composed the control groups identified as

groups X<sub>2a</sub> and X<sub>2b</sub>. Table I presents the student distribution for the sample under study.

TABLE I  
STUDENT DISTRIBUTION

Instructor	Method of Instruction	
	X <sub>1</sub>	X <sub>2</sub>
A	16	18
B	14	16
Total	30	34

X<sub>1</sub> = experimental groups  
X<sub>2</sub> = control groups  
A = the investigator as an instructor  
B = the second instructor

TABLE 2  
COMPARISON OF SAMPLE CHARACTERISTICS

Group	Age <sup>1</sup>	Mean Scores		
		Previous SW <sup>1</sup> Experience	Achievement <sup>2</sup> Scores	Undergraduate <sup>3</sup> Gr/Pt Average
X <sub>1a</sub>	27.25	1.87	1.02	3.06
X <sub>1b</sub>	27.07	0.85	-0.10	2.90
X <sub>2a</sub>	27.27	1.63	0.46	3.08
X <sub>2b</sub>	29.31	1.12	0.26	3.26
Total*	27.72	1.39	0.43	3.08

\* = total for all groups  
1 = by years and fractions thereof  
2 = scores on the Miller Analogy and Graduate Record Examination  
have been converted to standard scores  
3 = scores on a four point scale

TABLE 3  
COMPARISON OF THE MEANS ON THE CRITERION  
PERFORMANCE TEST FOR THE FOUR GROUPS

Group	N	Mean Scores	Standard Deviation
X <sub>1a</sub>	16	87.98	4.42
X <sub>1b</sub>	14	83.53	6.60
X <sub>2a</sub>	18	87.34	6.21
X <sub>2b</sub>	16	78.64	3.76

X<sub>1a</sub> = experimental group with investigator as instructor  
X<sub>1b</sub> = experimental group with the second instructor  
X<sub>2a</sub> = control group with investigator as instructor  
X<sub>2b</sub> = control group with the second instructor

Seventy-eight percent of the sample were female and 22 percent male. These figures closely approximate the population of the school at the time the study was conducted where 80 percent were female and 20 percent were male.

The mean age of this sample was twenty-seven. The mean number of years of social work experience for the sample was 1.39.

A measure of academic ability was computed for the sample using the Miller Analogy Test scores and Graduate Record Examination scores - these are pre-admission requirements. In computing academic ability based on these tests, scores were converted to standard scores. Undergraduate grade point average for the sample was also computed. The mean undergraduate GPA for the total sample was 3.08. Table 2 presents the means of the demographic characteristics of the group under study.

#### DATA ANALYSIS & FINDINGS

Hypotheses 1: related to the basic premise under investigation, whether behavioral objectives contribute to a significantly higher score on a posttest. An analysis of variance design was used to test whether there was a significant difference between the two groups and a significant F score was obtained. The mean scores and the standard deviations of the four groups on the posttest are presented in Table 3.

TABLE 4  
ANALYSIS OF VARIANCE BASED ON GROUPS  
AND INSTRUCTIONS UNDER STUDY

Source of Variance	df	ss	ms	F
<u>Groups:</u>				
Between groups	2	829.402	414.701	14.048 <sup>1</sup>
Within groups	61	1800.777	29.521	
<u>Instructors:</u>				
Between groups	1	719.123	719.123	23.330 <sup>1</sup>
Within groups	62	1911.056	30.823	

<sup>1</sup>Significant at .01 probability level

To establish direction, a multiple regression analysis was conducted. A significant F ( $P < .01$ ) was obtained supporting the contention that having behavioral objectives available to students contributes to improved performance scores. (Table 4)

The findings related to hypothesis one are consistent with theoretical expectations. While there is limited empirical research on the effects of the use of behavioral objectives in graduate social work education it would be expected that these findings would be consistent with studies in social work education on competency based curriculum as well as studies conducted in other fields and for other levels of learning.

Hypotheses 2-3: related to the subject characteristics of age, sex, previous social work experience, and academic ability.

A multiple regression analysis was computed using these demographic characteristics as independent variables. The coefficient correlation was obtained on the relationship of each characteristic and the variables of instructor, group and achievement scores. Information on these demographic characteristics was obtained from student records. The variable age was recorded by year and fractions of a year. For the purposes of testing the independent variable of academic ability the Graduate Record Examination scores and the Miller Analogy Test scores on each student under study were used as a measure of ability.

The amount of variance accounted for by these subject characteristics was insufficient to warrant further analysis (Table 5). This finding would broadly imply that the value of performance based curriculum would not be affected by these subject characteristics. The literature does not specifically support the contention that these variables in combination with teaching method would affect achievement scores. However, examination of these characteristics was thought to be important from the perspective of whether certain students would differentially benefit from the type of instruction method used. The results, showing no difference, support the position taken by Gagne that though students of varying

ability levels may begin their learning at different steps in a hierarchy, the conditions of learning apply (Gagne, 1970:28-31).

TABLE 5  
MULTIPLE REGRESSION ANALYSIS FOR ALL VARIABLES UNDER STUDY

Variable	R	R <sup>2</sup>	R <sup>2</sup> (increase)
Teacher	0.5229	0.2734	0.2734
Group	.5616	.3153	.0419
Undergraduate gr/pt average	.5779	.3339	.0186
GRE/MA	.5864	.3439	.0100
Previous SW Experience	.5888	.3467	.0028
Sex	0.5904	0.3486	0.0019
Age <sup>1</sup>	-----	-----	-----

<sup>1</sup>Level of tolerance insufficient for computation

DISCUSSION

Analysis of the data from this study suggests that regardless of academic ability, students using an instructional package containing performance objectives score significantly higher on a criterion outcome test than the students in the control groups.

In this study design a second instructor was included to control for instructor variance. The value of this arrangement was proven when analysis of results showed that a significant amount of the variance was accounted for by the effects of instructor ( $R^2 = .2734$ ). The difference between mean scores for this experimenter's two groups was .64 while the difference in scores for the second instructor was 4.89. It appears that as the experimenter, my experience and knowledge in the use of this teaching technology created a halo effect. Since I participated in design and utilization of this instruction model it might be assumed that there was an effect not only on student but also on instructor performance. This assumption would be consistent with established principles of learning. The fact that the second instructor did not participate in the design of the instruction package and was not experienced in this teaching technology possibly contributed to the greater difference in scores, thus, the outcome differences would be more likely a result of the instructional design. The implications of this finding, however, must be carefully interpreted. Since no hypothesis related to instructor was generated, one could question whether the findings may be fortuitous or spurious. Kerlinger (1965:671) cautions about the acceptance of unpredicted findings, "before accepting them, they should be substantiated in independent research in which they are specifically predicted and tested."

As with all field research, contamination of independent variables through uncontrolled environmental variables existed. However, in defense of field research in education Kerlinger (1965:383) writes,

The more realistic the research situation, the stronger the variables. This is one advantage of doing research in educational settings. For the most part, research in school settings is similar to routine educational activities, and thus need not be necessarily viewed as something special and apart from school life.

While total control over ecological factors of instruction was not possible, every effort was taken to control the environment in which the learning process took place. The time of day that classes met and the physical conditions of the classroom are possible extraneous factors affecting outcome scores; the experimental and control groups with the investigator as instructor met at the same time in the morning in the same classroom and the second experimental and control groups met at the same time in the same classroom in the afternoon. Information on student participation in the research project was, to the extent possible, held constant though the risk of students sharing curriculum materials was present.

It appears that when course objectives were stated in behavioral or outcome terms the process of teaching and learning enjoys greater clarity and precision. Students benefit by having available a clear guide for learning and the process of testing and grading can be accomplished with greater accuracy. Accountability is facilitated through the development of standards for learning. Though research on the value of performance objectives for purposes of increasing student learning is far from complete, studies that were reviewed and results of the Maryland Study suggest that this approach may promote improved performance on the part of the learner.

It is hoped that such validation will encourage the use of performance based curriculum designs in different content areas in schools of social work. Writing behavioral objectives for courses of study does involve considerable effort and cooperative planning. Based on our experiences, however, it would appear that the end product justifies the time and study involved.

There are important linkages that can be made between the goals of education and those of the profession of social work. The trend in social work is toward explicit statements of goals and procedures in practice. Additionally, professional accountability is stressed and is predicated on the establishment of clear objectives. The value of this study lies in the suggestion that social work educators can both develop greater precision in the measurement of learning outcomes and increase clarity of instruction while modeling important skills of practice.

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