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ABSTRACT

This report reviews "Sesame Street's" development of procedure and materials for the 1970-1971 season with emphasis on the social goals of cooperation, conflict resolution, and realization of differing perspectives. These goals mark a departure from the first year of programing which emphasized cognitive learning objectives. Research design, situational testing of social goals, and development of scoring procedures are discussed. The results of pilot testing will lead to further program and test refinement in anticipation of a larger scale effort to teach social goals during the third season.
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THE EVALUATION OF SESAME STREET'S SOCIAL GOALS:
THE INTERPERSONAL STRATEGIES OF COOPERATION,
CONFLICT RESOLUTION, AND
DIFFERING PERSPECTIVES

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THE EVALUATION OF SESAME STREET'S SOCIAL GOALS: THE INTERPERSONAL STRATEGIES OF COOPERATION, CONFLICT RESOLUTION, AND DIFFERING PERSPECTIVES¹

The success achieved by the Children's Television Workshop in the production of Sesame Street has demonstrated television's immense potential as an educational tool. Educational Testing Services' evaluation of the first year of Sesame Street² concludes that the program was successful in meeting most of its educational and related entertainment goals. According to this report:

Sesame Street achieved high audience appeal in its first year. It is satisfying to know that this appeal was associated with excellent educational impact. ...Sesame Street was a particularly effective program that benefited children from ghetto communities, middle class suburbs, and isolated rural areas. ...the impact in most goal areas was both educationally and statistically significant. Children who viewed Sesame Street achieved many of the stated goals in letters, numbers, and forms, and they gained appreciably in their skill in sorting and classifying. Transfer of learning was noted in some instances but basically the large gains occurred in those areas that were directly taught.

The goals referred to are mainly mastery of concepts that are cognitive or symbolic in nature. Specifically, the first year programming was primarily designed to help children learn to recognize and discriminate among letters, numbers, geometric forms, and parts of the body; to develop relational concepts such as sight, distance, and amount; to be able to classify, order and reason; and to expose a child to a wide range of objects in the natural-technological environment.

At the outset of the second (i.e., current 1970-71) season, the producers of Sesame Street decided to make a major effort to deal with a quite different category of learning outcomes--those that are social or affective in nature. Although a limited amount of material had been developed to teach these goals during the program's first year, there had been little attempt to program the social concepts systematically. Generally, the social-behavioral concepts had been overshadowed by the cognitive learning goals. For the second year, it was decided to develop a set of social goals which, hopefully, could be attained with the same degree of success as attained with the academic goals of the previous year. Three classes of interpersonal behaviors were to be emphasized: cooperation, conflict resolution, and differing perspectives. The division of these concepts into instructional goals is shown in Table I.

The development of procedures and materials needed to achieve and evaluate these social-behavioral learning outcomes was a major challenge in the 1970-71 season of Sesame Street. This report reviews some of the activities carried out during that year.

¹ Preparation of this paper was supported under a contract with Children's Television Workshop.

² Ball, S. and Bogatz, Gerry A., The First Year of Sesame Street: An Evaluation, Educational Testing Service: Princeton, New Jersey, 1970.

TABLE I

Statement of Instructional Goals for
the 1970-71 Experimental Season of Sesame Street

Part A: Social Interactions

1. Differing Perspectives
 - a. The child realizes that different individuals or groups may have different reactions in similar situations.
 - b. The child demonstrates that he is aware of and values the feelings, preferences and modes of behavior of other individuals and groups.
2. Cooperation - The child recognizes that in certain situations it is beneficial for two or more individuals to work together toward a common goal.
 - a. Division of Labor - When a child is a member of a group that has a common goal, he realizes that the goal will be more easily achieved if each member of the group shares in the work or planning.
 - b. Combining of Skills - When a child is a member of a group that has a common goal, he realizes that the goal will be most easily accomplished if each member of the group contributes his own unique or special skill.
 - c. Reciprocity - The child realizes that in certain situations; in order to accomplish his goal, he must request the assistance of others and in turn assist them in accomplishing their goals.
3. Conflict Resolution - The child can provide adequate resolutions to conflict when he is presented with a familiar conflict situation.

Situational Testing of Social Goals

Because first year programming had been purposely confined to a set of defined and objectively measurable cognitive instructional goals, it was a fairly straightforward matter to demonstrate the success of the program on its viewers. However, when the program turned its focus to social-affective concepts the evaluation problems became much more complex. While social behavior comprises a significant aspect of the lives of the children who view Sesame Street, social behavior concepts were neither strictly defined, nor were they objectively measurable in the same sense that symbolic concepts are measurable. The ability to say how one would behave in a certain situation--the technique employed in most paper and pencil procedures--is less appropriate in the social domain. While it is possible to measure hypothetical social behavior through paper and pencil tests, such tests have proved poor predictors of the actual appearance of the behaviors supposedly measured.

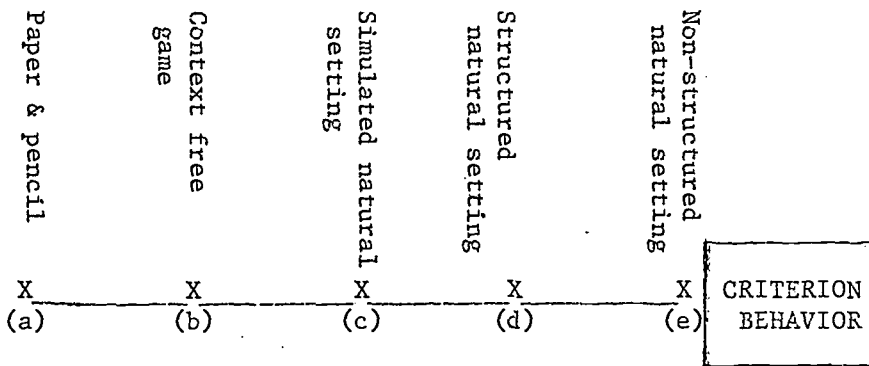
Part of the reason for this lack of predictive power is that social behaviors include feelings, emotions, and interactions that are usually expressed in actions rather than words. Reducing such behaviors to verbal projection can only result in distortion. Situational testing, on the other hand, is designed to measure the actions themselves. Only through a test format that provides actual, complex situations can an experimenter reliably elicit the emotions, feelings, and interpersonal interactions operative in normal social behavior. The object of such testing then, is to balance real-life simulation with predetermined experimental conditions. The relationship of traditional testing, situational testing, and behavior to be predicted is shown diagrammatically in Figure 1.

For the purposes of evaluating social behavior, situational testing seemed the optimum measure. CTW staff are mainly interested in determining the extent to which knowledge or skills, acquired as a consequence of viewing, generalize to or have utility in a more general context. Thus, if "cooperation" is the focus of the measure, a situation could be designed which would allow a certain amount of variance in behavior. The child would be placed in a situation in which he could choose to perform or not perform the behavior being tested. The task then, was one of setting up situations in which the social behaviors to be tested had the opportunity to appear. The appearance of the behavior would then be recorded.

Teaching Research, A Division of the Oregon State System of Higher Education was contracted to determine the feasibility of developing situational tests to measure Sesame Street goals. TR had a history of work in situational testing and was willing to apply its experience to the measurement of social goals. The remainder of this report will concentrate on two portions of the feasibility study. These are the process of gathering basic information on the social behaviors of young children and the task of developing guidelines by which the social behaviors might be assigned scores. During the course of the activities to be described, Teaching Research and CTW maintained a close liaison, both in the development of specific instructional objectives and in the design of the instruction and the tests.

FIGURE 1

CORRESPONDENCE BETWEEN THE BEHAVIOR ELICITED IN THE TESTING PROCEDURES AND THE CRITERION BEHAVIOR



NOTE:

- (a) A traditional testing procedure, where the person being tested initiates what he would do in a given situation.
- (b) A contrived game that requires the person to actually perform the response being tested.
- (c) A mock real-life situation requiring the person to actually perform the response being tested.
- (d) A real-life situation that has been "prepared" in order to maximize the occurrence of the behavior in question.
- (e) A real-life situation that has not been changed in any way for purposes of testing.

The first priority for the two agencies was to derive specific instructional objectives that would effect the broader instructional goals listed in Table I. A series of seminars were held at CTW in which the social goals were reviewed by behavioral scientists skilled in the area of child development. In addition, a literature search for material on the social behavior of young children was initiated by TR. It soon became clear that little information was available that could aid program producers in designing learning materials to teach social goals; there was similar scarcity of materials to help the evaluation staff in designing situations to test social goals. It was evident that further research using preschool children would be required to produce the needed information.

The Observations

The starting point of this research was the hypothesis that interpersonal behavior could be divided into units of interaction. These units, termed strategies, could then be used as a base for examining social behaviors. For example, three cooperation strategies identified early in the project are reciprocity, sharing, and taking turns. (see Table I) Looking at social behavior in terms of strategies had at least two advantages for the research effort. First, the conditions under which certain strategies occurred can be specified and their appearance observed with a good degree of reliability. Secondly, the strategies could form the basis of instruction. That is, children may be taught to reproduce the desired strategies when involved in situations where such behaviors would be appropriate.

The project staff at TR set about the task of delineating those interpersonal strategies that comprise the broader behavioral categories of differing perspectives, conflict resolution and cooperation. The approach was both empirical and conceptual. The staff spent many hours observing children in inner city nursery schools and day care centers, and recording relevant incidents of interpersonal behavior. At first, all behavior involving more than one child was recorded. Gradually, the staff began recording only those behaviors that appeared to represent cooperation, conflict resolution, or differing perspectives. Periodic discussions were held regarding the classroom observations, and many attempts were made to group the behaviors into comprehensive categories. Eventually, each observation was recorded on a file card to facilitate sorting, and the observations were grouped into interpersonal strategies.

The Interpersonal Strategies

The first area to be examined in detail was cooperation. For purposes of the observations, cooperation was defined as behavior for the joint gain of the participants, or for partial or complete acquisition of the individual goals of two or more participants. It is assumed that participants receive a high level of subjective reward for coordinating their efforts. Further, a participant is aware that his cooperation has positive payoffs for others as well as himself. The original three cooperative strategies were eventually expanded to thirteen. The expanded list of cooperative strategies is contained in Table II.

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TABLE II
INTERPERSONAL STRATEGIES OF COOPERATION

INTERPERSONAL STRATEGIES	DESCRIPTIVE DEFINITION
1. Combining Different Resources	Bringing together 2 or more different items required to achieve a common goal.
2. Combining Similar Resources	Bringing together 2 or more examples of the items required to achieve a common goal.
3. Combining Different Skills	The alliance of 2 or more children, each with a different skill or behavior, to achieve a <u>common goal</u> .
4. Combining Similar Skills	The alliance of 2 or more children, each with the same skill or behavior, to achieve a <u>common goal</u> .
5. Role Differentiation	The apportionment of various parts of a complex task or game to each of several children.
6. Trading	Two or more children agree to exchange or barter equally attractive <u>goals</u> . (Compare with "reciprocating", exchange of <u>means</u> to an end or goal.)
7. Reciprocity	Two or more children agree to exchange <u>assistance</u> so that each can obtain access to a common goal. (Compare with "trading", exchange of the goal or ends themselves).
8. Taking Turns	Children's alternate use of a goal-object or goal-activity.
9. Compromising	Arrival at a mutually agreeable and attractive alternative to conflicting activities.

TABLE II (cont.)

INTERPERSONAL STRATEGIES	DESCRIPTIVE DEFINITION
10. Going First	A decision procedure that children can employ, allowing them to initiate subsequent cooperative behavior.
11. Sharing or Distributing	Allotment of space, dispersion of children, dispersion of things into an arrangement that facilitates goal of each member.
12. Sharing Ideas	Similar to 1 and 2 but a <u>cognitive</u> commodity is exchanged.
13. Helping	Helping someone when your own goal/reward is not overt but probably a social reward.

Identification of conflict resolution strategies necessitated a definition of conflict. Conflict situations were defined as those involving two or more persons whose overt purposeful activities interfered with each other. Their activities may be directed toward the same goal as when two children fight over a single toy. However, their activities may also be directed toward separate but mutually exclusive goals as when one person wants to play the phonograph and the other wants to watch T.V.

The definition distinguishes conflict from aggression. Conflict involves mutually-interfering goal-directed behavior. If "A" hits "B", that is aggression but by our definition it is not conflict. "A" must be doing something that interferes with "B", or vice versa if the interaction is to be judged as a conflict situation.

Conflict resolution is the use of a strategy or strategies to deal with a conflict which has arisen. Although many strategies are specific to conflict resolution, some of the strategies of cooperation are effective in resolving conflict. The strategies that were identified are listed in Table III.

The final social area that was examined during the observations was differing perspectives. Differing perspectives, the process of "standing in the other guy's shoes and walking around", turned out to be the most complex of the social areas that were studied. It is difficult to identify specific, observable behaviors which indicate that a person is adopting the perspective of another. In most cases, behavior that was recorded as taking the perspective of others could be more narrowly designated as empathy.

Empathy can be a response to either a positive or negative event. Both sympathy and praise are types of empathy. A child can show empathy if a friend has hurt himself or won a prize. Empathy also includes acts of consideration done in anticipation of another person's feelings, to avoid unpleasantness or to increase the likelihood of a pleasant experience. Thus, empathy might be shown by avoiding a friend's exclusion from a game or by making sure he has a piece of cake.

Strategies that indicate that a child may be adopting a differing perspective are listed in Table IV.

Test and Program Development

The social behavior of the children in the preschools and the categories of interpersonal strategies were assembled in a document called A Handbook of Information on Interpersonal Strategies. This handbook served a dual function. The first purpose was to provide the Sesame Street writers with material to draw on when producing programming to teach the social goals. It provided them with a catalog of social behaviors and social situations that were familiar to preschoolers. Thus, the writers had a vehicle for reaching the preschooler with meaningful material. The second purpose of the handbook was to provide the raw material that would aid the development of effective situational response tests. The handbook contained descriptions

TABLE III
INTERPERSONAL STRATEGIES TO RESOLVE CONFLICT

INTERPERSONAL STRATEGIES	DESCRIPTIVE DEFINITION
1. Decision Mechanism*	A game or justification is introduced especially for arriving at a mutually acceptable resolution.
2. Compromise*	An alternative to conflicting goals is agreeable to both sides.
3. Distraction*	Attention is redirected from the problem situation to an agreeable or neutral one.
4. Adaptation	The setting, behavior, or activity which led to conflict is changed.
5. Intervention	Either the solicited or unsolicited presence of an adult or other (usually an outsider) is a major factor in the resolution.
6. Separation	One or both parties disengage from an activity contributing to the conflict.
7. Intimidation	One party retracts because of relative timidity or in fear of incipient hostility.
8. Fighting	Hostile verbalization or physical aggression as results from a clash of nearly equal wills.
9. Conning	One party uses verbal persuasion or situational adaptation to convince a second child to do something that he initially found undesirable.

* Recommended for Sesame Street programming.

TABLE IV
 INTERPERSONAL STRATEGIES THAT ARE EVIDENCE
 OF TAKING A DIFFERENT PERSPECTIVE

INTERPERSONAL STRATEGIES	DESCRIPTIVE DEFINITION
1. Reflection of Mood (Feelings)	A child or group of children demonstrate that they are aware of, affected by, and/or are willing to reinforce a strong emotion in another.
2. Constructive Response to Another's Misfortune	Children try to correct or alleviate another child's problem.
3. Accommodating Others' Preferences or Life Style	A child behaves in a way that is sensitive to another person's values, or habits, rather than his own.

of behaviors that were observable and potentially quantifiable, and also described the various settings in which the behaviors occurred. By examining these natural settings, it was possible to determine those which might prove suitable for situational tests.

The TR staff identified and refined ten to fifteen situations which appeared to elicit social behavior related to the goals of Sesame Street. They then returned to the preschools in order to field test the situations.

A variety of situations were tested, ranging from a mural in which several children were requested to simultaneously draw a single picture on a large piece of paper to the assembly of a giant letter, a task modeled directly after material presented on Sesame Street. Several situations predictably elicited a large amount of social interaction in all of the categories; on this basis they were selected for further development as test situations.

The results of this pilot testing and a description of the behavior of the preschoolers tested were presented to members of the CTW research and production departments. This group decided that a coordinated effort was needed between the production and the testing. Those situations that are the most powerful in eliciting social behavior are also likely to be the most effective in teaching social behavior. Therefore, the CTW production staff planned to produce skits based on the TR observations. Meanwhile, TR set about developing tests that would systematically evaluate social behavior in situations similar to those chosen for programming. Two sets of tests were developed--one set patterned directly after the skits written for the show, and another set that required the child to generalize to a new situation. The situations that were developed are summarized in Table V.

Preparation and development of the tests for this evaluation required the refinement of several aspects of the testing procedure. The remainder of this report will concentrate on only one--the scoring procedure.

Test Scoring

Very early in the research, it became clear that the use of trained observers would be the most effective way of recording the children's behavior. Observers could be trained to recognize and code a wide variety of behavior and behavioral strategies that could not be recorded by other methods.

The initial observational system required the observers to record the interactions of the children according to whether or not the interpersonal strategies appeared. The children were placed in the test situation and given instructions designed to elicit interaction. The observer then watched the children and recorded those strategies that appeared. The children were scored every 10 seconds. The pace was controlled by a pre-timed auditory signal. Initially, only the cooperative categories were used; these were eventually reclassified into three comprehensive categories--Exchanging, Distributing, and Combining Skills and Resources. This categorization of behaviors proved to be an effective and reliable procedure

TABLE V

SITUATIONS DEVELOPED FOR TESTING SESAME STREET'S SOCIAL GOALS

Indirect Measure	Build-a-House	Children attempt to build a precarious cardboard structure
Direct Measure	Draw-a-House	Children are assigned a drawing task patterned after one presented on <u>Sesame Street</u>
Indirect Measure	Draw-a-Man	Children are assigned to work together to draw a picture of a man
Direct Measure	Block Stacking	Children must combine blocks in order to make a stack taller than they are
Indirect Measure	Tug-the-Rope	Children are required to pull on a string alternately to cause a clown face to move back and forth

for obtaining information on strategy use.

However, although the observation procedure was eminently satisfactory, a basic decision was made at this point that influenced the entire future direction of the system. For the first half of the evaluation effort the emphasis was on categorizing the strategies used to effect cooperation, conflict resolution, and differing perspectives. Following conference with the CTW staff it was decided that the focus of observation and classification should be changed from horizontal category division to a vertical breakdown of behavior patterns leading to full cooperation. That is, instead of simply grouping final cooperative strategies, the stages of interaction that led to the cooperation would be analyzed, defined, and scored. This change was based on the assumption that the strategies focused on were not entities of behavior, but rather the end results of a progression of interaction. If this is true, then it is possible to isolate the particular chain of behavior that would lead to cooperation rather than to the less desirable problem solutions. Through identification of these pre-cooperative stages, as well as even earlier steps in the interaction hierarchy, it would be possible to develop a teachable pattern of behavior. Sesame Street programming could be developed to move the viewer along this hierarchy from preliminary to pre-cooperative behaviors and concepts, and finally to the achievement of the desired cooperative strategies.

The process of refining the scoring of cooperation entailed a great deal of revision and redefinition of previous materials. Due to the time this absorbed, the project staff was forced to shelve temporarily the work on conflict resolution and differing perspectives. Thus, the efforts of the TR staff were centered on the development of an accurate, reliable procedure to score the level of cooperation only.

The cooperation behavior chain was divided into six levels. At level 0 is behavior which is verbally or physically obstructive. This behavior, generally aggressive or negative prevents or has the potential of preventing any cooperative interaction. Level one is defined as minimal activity and contact between two or more individuals; a child engaged in level one behavior does not overtly respond to the ongoing activity or to the other children. If the children are engaged in some social interaction or in parallel activity which is not directed towards a cooperative goal, but which is not obstructive, the interaction is defined as level two. At level three are behaviors that are specifically pre-cooperative. That is, a child is verbally or behaviorally directing another towards a cooperative strategy. If carried out, this direction will lead to full cooperation. Finally, at level four is the actual cooperative act. This level encompasses the previous categories,--combining skills and resources, exchanging, and distributing. Essentially it is defined as two or more people working together towards the attainment of a joint goal or product. Attainment of this level of interaction is the final aim of the situational tests as well as the Sesame Street programming.

More detailed definition and some complex decision mechanisms were needed in order to define the specific boundaries of each level. Further, a scoring system was developed to enable a statistical analysis of subjects' behavior in the situational tests. This scoring system simply involved the

invention of a cooperation unit, which was termed the grover*. Grovers were awarded to correspond with the numbered level of a behavior. Thus, a child engaging in level two behavior would be scored at 2 grovers, a child involved in a cooperative act would be awarded 4 grovers, etc. (see Table VI)

Under the new system the observations are aimed at arriving at a numerical rating of a child's cooperative behavior. Through this, scoring comparisons can be made between pairs of children, averages studied, and the effects of certain conditions, specifically, the effects of viewing Sesame Street, on the appearance of cooperative behaviors can be studied.

Conclusion

The task of developing instructional materials to teach social goals and of developing tests to evaluate their impact has reached a point at which field testing is appropriate. During the last month of the current Sesame Street season, three experimental programs that are summarized in Table V will be presented. They will be broadcast repeatedly for three weeks. A small group of children will be tested before and after the viewing of experimental programs. The results of this pilot test will lead to further program and test refinement in anticipation of a larger scale effort to teach social goals during the third season of Sesame Street.

*NOTE: The name grover was chosen in honor of the Muppet star of one of the cooperation skits produced as a result of the information generated in the project.

TABLE VI

SUMMARY OF SCORING SYSTEM

<u>Level of Interaction</u>	<u>Score</u>	<u>General Description of Interaction</u>	<u>Examples</u>
IV	4 grovers	COOPERATION	Combining Skills and Resources (CSR), Exchanging (Exch), Distributing (Dstb). May be situation goal-specific--materials may be utilized to produce product which is the solution of the situation OR non-situation-goal specific--materials are utilized so that joint product results.
III	3 grovers	PRE-COOPERATION	Sharing Ideas (ShI), Direction giving and taking (Dir), Attempt to Cooperate (Atmt); also may include intimidation and other conflict resolutions if cooperation potentially is attained.
II	2 grovers	ACTIVE INTERACTION	Social verbal interaction and activity (Vb-2), all non-obstructive play not directed toward producing joint product; copying or listening; working actively side-by-side, but the focus of the activity in this case would be on a different or separate product. Similar or joint effort but no joint product results.
I	1 grover	MINIMAL INTERACTION	Withdrawal, watching, or little movement. No verbal behavior. It is never obviously apparent that one child is responding to another child even though some side-by-side activity is occurring.
0	0 grovers	OBSTRUCTIVE	Verbal criticism (Vb-0), taunting (Vb-0), other verbal harassment. Physical prevention of attainment of joint product (Phys).