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ABSTRACT

The paper describes the Shared Process Evaluation System (SHAPES) for analyzing the process of community development. The system's basic organizing unit is the critical incident, an event judged to be essential to the continuation of a particular community development project or as representing a choice point in the project's history. Three sets of design criteria were used in developing SHAPES: criteria related to information discrimination and gathering; those related to validity, bias, and reliability; and those related to flexibility of information storage and retrieval. In the system, community development is defined as taking place when the priorities of different fields (individual or group actors in the community) are in relative agreement and result in effective shared activity. The SHAPE System in operation addresses itself to four questions: Who was involved? What happened? In what contextual model should the project outcome be viewed? What were the project outcomes? These four questions together with the instruments designed to provide data for their analysis constitute the essence of SHAPES. A field test of SHAPES produced positive reactions from an outside evaluator, field agents, and community informants, thereby encouraging its further refinement and application. (JR)

# Towards a Process Analysis of Community Development

"There was no 'One, two, three and away!'
but they began running when they liked, and
left off when they liked, so that it was
not easy to know when the race was over."

(from The Caucus Race in
Alice in Wonderland by Lewis Carrol



**shapes**

Shared Process Evaluation System

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# INTRODUCTION AND RATIONALE

We began our investigation into community development by asking ourselves if such a process or phenomenon really existed; and if it existed, what might it look like, what should we pay attention to, and what a field worker needed to know to affect the process.

Like the blind men examining an elephant, we found that we could study the process from several points of view, each leading to a different interpretation of what actually happened within the community. If we used a powerful objective on our microscope we could differentiate the detailed interpersonal structures within the community; if we reversed the objective, we could see the entire community at a glance, but the fine details disappeared.

We chose, therefore, to learn about community development by studying both the whole-ness and part-ness of the phenomenon and the community. To do this we developed an evaluation system, the Shared Process Evaluation System (SHAPES) which can be used to examine the process of community development at a variety of levels and for a variety of different purposes. The SHAPE System has these components:

(a) It attempts to clarify the phenomenon in terms of its overall shapes or patterns as a whole process.

(b) It attempts to view the details of that process as parts of the whole and to view them in relation to each other and to the whole pattern.

(c) It provides a means for sifting existing community development models with a view to assessing the relative strengths and weaknesses of the models, to testing each one's goodness of fit congruency with reality, and to aid in the construction of a testable composite model.

(d) It can be used to examine the entire project and/or process or any part of that project and/or process.

(e) It can be used to collect data while the project is still in progress without disrupting community relationships, or to evaluate the project post facto.

(f) It can be used by community people to develop a better understanding of the experiences they are sharing; by the field worker to provide diagnostic data on which to base informed intervention strategies and process decisions; or by community development administrators anxious to determine relationships between process and products, between budgetary costs and outcome benefits.

# THE FOCUS VARIABLE

## The Argument for a Smallest Meaningful Unit of Evaluation

Much of the structure of the SHAPE System is founded on a new concept which we call the Smallest Meaningful Unit of Evaluation or SMU for short. At the basis of this concept is the assumption that a major function of any evaluation is the ability to foster clear, concise, meaningful communication among a number of users of the system. Not only must evauative decisions be made, but trust must be generated among those to whom the project is important that the decisions have been made on the basis of a reality to which they can agree.

Part of the difficulty in communicating about evaluation is that different people seem to organize information about the world at different levels. An administrator of a federal agency may see all programs under his control in terms of six to eight major program objectives. His decisions to redeploy resources are based on data organized around those objectives. A community development agent working in a community organizes his activities around local goals. This agent may see a series of meetings as falling into a project or a meaningful whole. On the other hand a citizen may see a single meeting or encounter with the agent as a meaningful unit.

It is, of course, possible to conduct an evaluation at any level of complexity or at any level or organization of meaningful activity. The PPBS (Program Planning and Budgeting System) argues that evaluations should be conducted to ascertain the progress of a program toward basic agency goals and objectives. At program levels these basic goals are translated into specific activities.

On the other hand, an evaluation can be organized at a micro level. During the past years there has been a movement to encourage program planners to be more specific about their program goals. In particular, it has been suggested that program goals be broken down into small parts where specific behavioral outcomes may be sought and expected. These behavioral objectives then form the building blocks of a program. An evaluation at the level of the behavioral objective unit, can be said to be at a micro level of analysis.

The problem is not that several levels exist. Indeed, any comprehensive evaluation will include analysis at a variety of levels because the evaluation will serve a variety of audiences and purposes. The basic problem is which level should be selected as the focus of an evaluation system. The difference here is the selection of a level to conduct a single evaluation and the selection of a level to collect information on an ongoing basis. We argue that an evaluation system should focus on a level of evaluation that is meaningful to the largest number of audiences. If the evaluation level is seen as meaningful by these audiences; then, we predict there will be less resistance to the collection of data, there will be greater

confidence in the validity and reliability of the data and, consequently, there will be greater use made of the evaluative data.

Experience in working with the users of evaluation systems indicates that, when there is a mismatch between the data gathering requirements of an evaluation system in which the agents view their work, resistance to the evaluation system is high. This is true both for systems in which the basic unit has been the behavioral objective and for systems where the goals have been viewed as too global.

For micro systems resistance has been related to the creation of large numbers of objectives. The problem has seemed to be that, after the specific objectives were created, it was too easy to lose sight of the overall pattern of the program. In other words, the field worker had been asked to divide the program into unnecessarily small units. Problems at both levels can arise in a system such as the Extension Service's Extension Management System. Line items or specific tasks can become too small resulting in a proliferation of objectives for the field worker which are difficult to keep track of during the year. On the other hand, national objectives are often too large resulting in a difficulty in classifying certain events. The basic unit around which information is organized simply must correspond to a unit that the field worker finds meaningful.

For the field worker, as well as the program administrators, there are probably several levels which are meaningful. How, then, can we choose that level which is most useful as the foundation of an evaluation system? It is clear that the smaller the unit the more precision which can result from the evaluation. Thus, the criterion for the basic unit may be expressed as that unit which is as small as possible without losing meaning to program personnel. This unit we call the Smallest Meaningful Unit.

## The Critical Incident as the Smallest Meaningful Unit of the SHAPE SYSTEM

The basic organizing unit of the SHAPE System is the Critical Incident. The Critical Incident has many of the ideal characteristics of the Smallest Meaningful Unit discussed above. An incident is defined as an observable human activity which is sufficiently well differentiated to permit description and inferences to be made by participants and observers. To be a Critical Incident, the event must be judged as essential to the continuation of the project or as representing a choice point in the history of the project. The

participant or observer should be able to describe what happened before the incident, what occurred during the incident, what the outcomes or products were, and what happened following the incident. As a result of the definition, the Critical Incidents and the patterns which they form are viewed as meaningful by both community participants and community development professionals. These incidents can be analyzed in a way that is meaningful to program administrators. Thus, the Critical Incident meets the basic requirements of the Smallest Meaningful Unit.

Each Critical Incident contains an activity component. In our short experience with eliciting Critical Incidents we find that they tend to be seen as either meetings, definable tasks, or significant learnings. Thus, for each Critical Incident we identify the resources consumed during the incident, as well as results in the form of specific actions, decisions, products, or learnings. Learning can be defined in this setting as either the acquisition of additional facts or the reorganization of information already possessed.

In addition to inputs and outputs we assist the participants in a Critical Incident to set the event in a perspective or overview of process. In order to minimize bias we assist this judgement with instruments, such as Q-sorts, and structured interviews. Thus, to each Critical Incident is attached input data, output data, activity data, participation data, and conceptual meaning data.

Many of the questions which we wish to ask of a community development program relate to the history or process which took place. The Critical Incident forms the building block of the analysis, but it is important that these units can be linked together. Each Critical Incident must have identifiable predecessors and successors. Patterns formed by the history of Critical Incidents allows classifications of patterns for macro analysis, while the unit itself yields smaller units of information for more micro analysis.

One additional property of the use of Critical Incidents is worth noting. In the SHAPE System we ask each individual informant (Field) to provide us with a list of Critical Incidents as perceived by the individual. The basic datum is a Critical Incident as defined by one individual. As we accumulate these individual Critical Incidents we begin to be able to determine the degree to which certain events are perceived by many individuals as Critical Incidents. Thus, we can determine the degree of congruence among the participants in a particular project. Those Critical Incidents which are identified by many individuals become the marker points in describ'ng and evaluating what happened during a particular project.

## DESIGN CRITERIA FOR SHAPES

From our experience with community development programs, as well as extensive discussions with other community development professionals, we have developed three sets of design criteria which we used in developing the SHAPE system. They are: criteria related to information discrimination and gathering; criteria related to validity, bias, and reliability; and criteria related to flexibility of information storage and retrieval.

### Criteria Related to Information Discrimination and Gathering.

We believe that an evaluation system which seeks to provide data for decisions relating to community development programs should:

(a) focus on the process, structures, and the observable outputs of a community development activity;

(b) be readily usable by either an "outside" or an "inside" evaluator;

(c) require minimal skills likely to be found in community development field professionals;

(d) either be nonreactive or support program goals during the collection of data.

### Criteria Related to Validity, Bias, and Reliability

Any system which provides evaluative data should possess characteristics of validity, freedom from bias, and reliability. In a system which collects data from community development activities these characteristics are difficult to attain. Nevertheless, we feel that the following criteria should apply:

(a) the data gathered should be judged by the users of the system as fairly representing reality;

(b) the data should provide an accurate documentation of the community development process for purposes of assessment and reporting;

(c) the data should be as free as possible from the bias of the community development field professional; and

(d) the data collected should be replicable by other data collectors.

## Criteria Related to Flexibility of Information Storage and Retrieval

We envision a large number of users of the evaluation system. Each of these users will be asking for data to assist in the making of diverse decisions about the community development program. In light of these needs we decided to attempt to design a system which allowed data to be retrieved in flexible formats. The following criteria were developed to meet this goal:

(a) the system should provide data which allows comparison among community development programs, even if the programs were designed from different conceptual bases and with different goals; and

(b) the system should accommodate different models of community development.

## The SHAPE System

Using our notion of the Smallest Meaningful Unit and the list of the criteria developed in the last section, we set out to design a system of data collection which could be used in evaluating community development programs. We refer to this effort as a system because we were trying not only to provide help with the kind of variables which might be considered, but we also wanted to develop the instruments which would be usable and effective in the field.

## Three Necessary Assumptions

We have made an attempt to reduce the number of assumptions necessary yo udr our system to an absolute minimum. The primary reason for the attempt tp minimize necessary assmptions is to permit the system to be used by as many individuals with varying conceptual frameworks as possible. The extent to which we have succeeded in reducing the assumptions will be left to our critics, but at this point we want to share the necessary assumptions.

Assumption 1. Human activity related to need fulfillment can be described and broken into phases.

We do not know if this assumption is correct, but we are in good company. Almost all of the theoretical writings in community development have assumed that regularities of some kind exist in the activities of individuals involved in a problem solving process. If the assumption is false, then there can be no way of measuring or accumulating the results.

Assumption 2. The human activity related to need fulfillment takes place in a number of Fields (consisting of individuals or groups) which have specific describable characteristics.

Any Field can and does operate independently, but when several Fields come into contact a potential for shared activity exists. Shared activity has the potential for increasing or amplifying the effect of an individual Field's efforts.

Assumption 3. The achievement of the potential for shared activity depends on a match of phases between differing Fields.

We believe that effective shared activity occurs when two or more Fields act together and view the action as serving the same functions. Each individual Field's agenda serves that Field as a plan complete with expectations, intentions, and attentions. When there is a congruence between the agendae of several Fields, there is effective shared activity. In other words, the Fields are now striving for similar goals in relative harmony.

## Definition of Community Development

Taking these assumptions together. we are now ready to define community development in terms of ıe SHAPE System. Community Development takes place when the priorities of different fields are in relative agreement which results in effective shared activity.

## Four Basic Questions Attended to by the SHAPE System

The SHAPE System contains no new lines of inquiry, but it does bring together three traditions in the research of community education. The basic questions of the system, the research traditions from which we drew the questions and our instrumentation are presented in Figure 1.

The first questions is: Who is involved? In many studies this question is pursued by asking community members to nominate a list of people who qualify as community leaders.[1] By combining the nominations from a large number of informants one is able to accurately ascertain who the perceived leaders in a community are. Although the SHAPE System basically uses this strategy, we have made a major conceptual modification.[2] Instead of collecting individuals, we view those who were involved as operating in a subpart or Field of the community.

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1. Ronald C. Powers, "Power actors and social change (Parts 1 and 11) Journal of Cooperative Extension, 1967, vol. 5, pp 153-163 and 238-248.

2. Terry Patterson, "Spatial and temporal analysis of group functions: A categorization system for analysis of community activities". Unpublished manuscript. (Toronto, Ontario: Addiction Research Foundation, 1974, Project H 130; Subsidy No. 603).

Shared Process Evaluation System

| | Who was involved? | What happened? | In what context should we view what happened? | Other information |
|---|---|---|---|---|
| SHAPESystem | Field Identification | Critical Incidents | Phase Identification | Description of Project |
| Theory or Research | Ronald C. Powers "Power actors and social change" | John C. Flanagan Critical Incident Technique | Terry Patterson "Spatial and temporal analysis of group functions." | |
| Data Collection Instrument | Field Nomination Cards | Critical Incident Cards | Options: Q-sort Probe Sheet Phase Description Cards Agent's judgement | Collection of descriptive data |
| Data Summary Instrument | Master List of Fields → | Master file of Critical Incidents ← | Phase Designation (Major/minor) | Outcomes, decisions, and visible products |
| Data Display instrument | Matrix A - Patterns of field participation<br>Matrix B - Patterns of shared change<br>Matrix C - Patterns of individual change<br>Time-Line Display of Critical Incidents | | | Relationship of outcomes to Critical Incidents |

The problem is that in a community activity people do not always act as individuals. A person can be acting as an individuals, as a part of a small group, or as a representative of an agency or institution. There are four classifications of Fields: (1) individuals; (2) small group; (3) institutions; or (4) community. We collect data pertaining not only to who was involved, but also under what conditions they were involved. Were they constrained by policy or were they free to act as individuals? Did they carry a particular community role, or were they a member of an identifiable small group?

The second major question which the SHAPE system addresses is: What happened during a particular community developmentproject? In order to collect and organize these data we have adopted Flanagan's Critical Incident Technique.[3] The Critical Incidents form the focus variable of the SHAPE System. Around the Critical Incident we collect all of the remaining data.

We ask individuals to think through the history of the project or series of events, and isolate those events which seem to have been critical. By critical, we mean events which either mark a turning or choice point in the project or events which were necessary for the continuation of the project. We ask these questions both of the community development professionals and of individuals who have been identified in the identification of Fields. We combine the Critical Incidents gathered from these several sources into a history or chronology of the project.

The third question of the SHAPE System is in what context should we view what had happened? There are many possible models that one could propose as the context. We have chosen a six step model proposed by one of the authors of the SHAPE System.[4] With proper instrument modification it would be possible to substitute any model of community development. The only requirements are that the model describe reality and the phases be capable of translation into activities which can be differentiated by the participants.

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3. John C. Flanagan, Measuring Human Performance, (University of Pittsburgh and American Institutes for Research, 1962).

4. Terry Patterson, Op cit.

There are many ways that one could match the Critical Incidents with various model phases. Perhaps the simplest (and most open to bias) would simply be to present to the informant a definition of the various phases and ask him to judge into which phase the particular event should be categorized. Alternately, the interviewer could interview the informant and subsequently make the judgment. Finally, one could develop a series of instruments which attempt to match specific behaviors with phases and then ask the informant to select these behaviors which characterize the event and then infer the phase from the data collected through the instrument. It is this final strategy which forms the bulk of the SHAPE System. We have developed a series of instruments to help control bias: a probe sheet, a Q-sort, and a set of Phase Description Cards.

As we interview each individual about the Critical Incidents, we use various instruments to identify the meaning each incident had for that individual. Thus, we have a phase determination for each individual for each Critical Incident and these form the plots on our SHAPES analysis.

It is necessary to collect this information from a variety of informants because it is possible for each of the people attending a particular event to attach a different meaning to the event. Indeed, it is the degree of congruence between meanings attached to a particular event that we are interested in determining.

As an example, a community worker may attend a meeting and characterize the meeting as a time of identifying community needs. For a man who represented the state planning office, the meeting may have been seen as an opportunity to carry out the activities of his agency by informing the community concerning the services available from his agency. These two people have attended the same meeting, but it has had a different meaning to each and each may evaluate the outcomes differently.

At the same time as we are focusing on the three questions above, we are also interested in collecting data on the outcomes of the project. For each Critical Incident we asked: What happened? What resulted from the event? How is the community different? These data are necessary to assess the degree to which the project is meeting its goals. But notice, this outcome data is collected as a part of focusing on the process of community development, and thus is not isolated. We are primarily interested in what is happening in the community and only secondarily interested in the specific goals of the agency supplying the community worker. The outcome data are necessary, but not sufficient in themselves.

These four questions, and the instruments designed to provide data for their analysis, form the SHAPE System. The handbook[5] setting forth the system indicates that we have indeed designed a community development evaluation system which meets to a large extent the criteria set forth above.

We next turn to a short description of our experience in field testing the SHAPE System.

## Experience with the SHAPE System

We would like to share some of the preliminary experiences we have had in testing the SHAPE System. Although the development of the system is still continuing, we have had several opportunities to field test both the concept and the instruments which have been developed. The most complete field test to date was conducted in Williams, Arizona, in December of 1974.[6] The basic analysis is available from the authors, but for this paper we would like to share some of the reactions we received from the outside evaluator, the field agents, and the community informants.

Although we were not able to obtain complete data because several informants were out of town, we were able to collect most of the necessary data in only a day and a half of interviewing. It is anticipated that most community projects could be evaluated in less than a week.

The reaction of the field agents to the experience was quite positive. Prior to the field test there was a natural reluctance on the part of the agents to the use of an outside evaluation system. After working with SHAPES the agents reported that they found both the process and the followup informative and useful in their programming efforts in the community. The resulting data was described as fairly representing the reality of the community development project. We were able to provide clear evidence of a correlation of extension efforts and outputs resulting from the process.

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5. Lynn Davie, Terry Patterson, Dorothy MacKeracher and Richard Cawley, "SHAPES: Shared Process Evaluation System" A project funded by the Extension Service, U.S. Department of Agriculture. Handbook available from the Department of Adult Education, Ontario Institute for Studies in Education, Toronto, Ontario, April 1975.

6. Lynn Davie et al, "SHAPES: Case Study". Copies available from The Department of Adult Education, O.I.S.E., Toronto, Ontario, December 1974.

One of the difficulties of evaluating a community development project is that it is seldom possible to link an output with a specific input by the community development professional. Indeed, often the strategy of the professional is to play a facilitative or catalytic role and to avoid making interventions that lead to specific community outputs. The SHAPE System allows the presentation of a correlation of effort with the increased movement and productivity of a community. These patterns are often stable and clearly identifiable when utilizing the SHAPE System.

In addition, we were able to test the notion that field agents would be able to use the SHAPE System with a short, but well organized, training program. The instruments and concepts were extensive, but not too complex to understand. Within a day we were able to train the agents to use the basic interview strategies and instruments.

The community participants responded well to the interviews. We were well received, and the participants were most willing to talk to us. They did not seem to have difficulty with any of the basic questions, though the Q-sort was difficult for some of the less sophisticated individuals. This limitation did not cause great difficulty as we had alternative means to assess the particular phase of a Critical Incident. One finding which we found most interesting is that many individuals in the community were not aware that a project or process was taking place in their community. Many of the individuals with whom we talked viewed the various activities as isolated or unrelated events. This finding surprised the agents involved but did not limit the ability of the informant to provide us with the information we needed.

Our overall impression of reactions to the SHAPE System is that it deals with information at a level that many found meaningful and, at the same time, provides us with the basic patterns needed for more sophisticated analysis. We did not feel that we in any way disrupted or distorted the relationship between the agents and the community leaders wutg whom they were working. On the contrary, we were able to identify several places where new effort might be productively directed. In addition, we were able to show the clear effects of the extension effort in a project where those effects were being claimed by other agencies. We are most encouraged by this field test.

Over the next few months we will be testing the system in other extension efforts in the Western Region of the United States, and with a number of community development programs in Canada.

When we set out to learn about community development we tried not to impose our own biases on the data we gathered. We did make some basic assumptions: that good community develment involves shared activities, shared understandings, and shared perceptions; and that this sharing process occurs among a diverse collection of individuals and groups. We therefore selected three variables to examine more closely: who was involved, what actually happened, and what meanings were attached to what happened by those involved. We then attempted to relate these three variables in a manner which yielded a three-dimensional picture of the phenomenon occurring in that community.

The uses to which this system can be put have yet to be fully explored. They can vary according to the needs of the person doing the looking and taking the picture. Whatever use one might have for the information, we believe there is merit in using a process which focuses on the means of community development as well as on the ends and in using a shared perspective based on actual events.

## USES OF THE SHAPE SYSTEM

We hope the SHAPE System will be used both in further community development field tests and in other settings. In the SHAPES Handbook we have suggested three ways in which the System might be used by community developers.[7] It is also our conviction that the system could be adapted to test other models of the community development process. This would require changes in the phase descriptions and corresponding changes in the phase designation instruments.

We are also looking forward to adapting the SHAPE System for use in other settings, such as the teaching-learning process or in the professional development process. In these adaptations the instrumentation would need to be changed more radically but the concepts involved (e.g. the smallest meaningful unit and the shared aspects of the process) would be retained.

Whatever use the reader selects, we would be happy to be kept informed of progress made and results obtained, and of reactions to the system as a working tool. Please forward such comments and/or reports to Dr. Lynn Davie, Department of Adult Education, The Ontario Institute for Studies in Education, 252 Bloor Street West, Toronto, Ontario.

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7. Lynn Davie et al, Op. cit.