Some Uses and Potentials of Qualitative Methods in Planning

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Abstract

Planners use methods borrowed from many disciplines. These are usually modified and adapted to meet planner's needs to acquire and sift through many diverse information sources helpful in dealing with complex problems. The quantitative methods which planners use are well known, well established in practice, and acknowledged by most as tools of the planners' trade. In contrast to this, most planners also use qualitative methods but these are rarely explicitly acknowledged.

In this paper some of the qualitative methods used in planning are identified and categorized into three groups according to the special contribution that they make to the practice of planning. A few of these methods are elaborated to highlight their unique potential to address particular aspects of planning problems. Given this potential, the current debate about how best to teach quantitative methods in schools of planning should be expanded to include discussion of the teaching of qualitative methods.

Introduction

Good planning practitioners use their diagnostic skills to ask the right questions to frame a problem and to synthesize quantifiable and qualitative information to arrive at "best solutions." Of the mix of quantitative and qualitative methods the planner uses to obtain this information, the quantitative are well-known, and acknowledged as tools of the planner's trade. Among planning educators, discussion about pedagogy centers on how best and at what levels of complexity to teach these methods. In contrast, qualitative methods remain to be fully recognized as important tools in planning. This is partly a consequence of the formative years of the planning discipline when planning was promoted as an exercise in the application of technical, scientific rationality to societal problem-solving. The methods stressed were generally highly quantitative in the attempt to make planning appear to be more like the "hard," i.e., the natural, sciences. This emphasis on scientific rationality was in keeping with trends first established in the 1920s and '30s in related disciplines such as sociology, economics, and anthropology in their attempt to acquire prestige by adopting the methods of the natural sciences. Academic attention was turned to statistical methods. The concern was with issues of reliability and consistency, at times to the neglect of the problems of validity. Among many descriptions of these trends in planning, see Friedmann (1981, preface) and Waterston (1965).

But planners continued to be confronted by issues not amenable to quantitative analysis. Planning shifted from physical/ technical plan making, of its earlier "master plan making tradition," to policy analysis and a primary concern with human/social systems. Emphasis shifted to methods found useful either in observations of systems and how they functioned, or in developing strategies for intervention. Many of these methods were what are referred to here as qualitative methods. They are used to obtain information about the qualitative aspects of human/social/ physical/political systems and their inter relationships.

There are several reasons why planners rely on qualitative methods to collect information.

Time

Planning claims to be an action-oriented discipline. The excellent analysis that is "scientific" but takes so long to complete that it cannot influence critical decisions (usually made to fit a political time table) is not useful in that particular context. Therefore some qualitative methods are used to garner information in a timely fashion.

This paucity of time between the identification of a problem and the need to act or formulate a strategy for action is an important, and usually overriding, constraint in planning. Problem formulation, information collection, data analysis, planning and policy recommenda-tions, and the implementation of formulated strategies occur relatively rapidly, often under crisis conditions. Usually neither the budget nor the political context allows for a systematic evaluation of the effectiveness of actions taken. The resulting lack of evaluative literature means that with each new planning problem the planning practitioner is left to his/her own devices to piece together, *post facto*, an analysis of how things worked in similar contexts.

At the same time, rapid judgment is required in the formulation of a strategy for the future. The most practical methods are chosen for the specific situation, keeping in mind such factors as time, available finances, person power, skills, political climate, cultural norms, and prevailing ideological climate. Under the time pressure of practice, qualitative methods that promise useful insights quite often look very attractive even if they do not enhance the "scientific respectability" of the discipline.

Data Scarcity

The planning process generally occurs in situations where relevant quantitative data are often scanty, dated, or non-existent. This is true whether the work is in the private or the public sector, or whether the client is an individual, an institution, or a community. As a result, case studies, anecdotes, observations of the built form and of human interactions, despite their lack of statistical significance, are pressed into service as all that are available to inform the decision maker. Such information, whatever its shortcomings, can reveal some of the qualitative factors — values, biases, attitudes, historical precedents, political, cultural, and

traditional factors (all very persuasive to the decision maker) — that more rationally gathered quantitative information often does not contain.

Subjectivity

There is a gap between what people say they do or will do and what they actually do. Asking people what they will do in a given situation does not reliably provide an accurate understanding of what they actually do when faced with that situation (Deutscher 1970). Sometimes needed information is not amenable and conducive to data collection that can pass the standards of statistical significance, consistency, and other tests understood to be essential in the more commonly used quantitative methods such as surveys.[1] There is an increased awareness now that planners must be sensitive to forces outside the scientific, rational, technocratic arena traditionally envisioned as the planner's legitimate purview. It has become quite clear that culture, tradition, social psychology, personal intuitions, and history play a great part in the decisions people make and the way they choose to act. We have found that a retroactive understanding of people's behavior has not enabled us to predict their future course of action with desirable degrees of accuracy. Techniques that help to capture the subjectivity that comes into play in decision making have been needed and qualitative methods have been developed for more effective ways of both getting this information and communicating it.[2]

Some Limitations of Qualitative Methods

It is important to stress here that qualitative methods are not merely an inferior substitute for "more rigorous" quantitative measures that the lack of time, money, or quantity of subject material precludes us from developing. In fact, qualitative methods are not necessarily easier or even less time-consuming than quantitative ones. They are essential because they help in the examination of factors different from the ones amenable to quantitative measurement and therefore allow their inclusion in the planning analysis. As a result, they yield insight that supplements information obtained by conventional quantitative methods. Nevertheless, it will be useful to note some limitations of qualitative methods.

Qualitative methods are presently more global and tentative because they are by and large in the evolving, innovative, and experimental stage. As a result, all the procedural guidelines and caveats have not been established. Therefore qualitative methods are difficult to teach and much of the learning is derived from hands-on experience and insight gained from collaborating with senior practitioners of the art. In the more successful applications of qualitative methods, the experience and skill of the researcher are perhaps more crucial variables than in comparable quantitative measures. For example, the ability to link experiential, observational information with past knowledge and with quantitative information is enhanced by years of successful practice, as is the ability to establish rapport with individuals from whom information is sought. Or in the adaption of secondary source information skillful interpretations of the data by experienced researchers are necessary to allow them to be of use to planners. This is particularly important since the biases of the writers and their perspectives of the situation are not usually known.

However, the literature on qualitative methods is expanding and with this the methods themselves are being developed more systematically. The growing literature will help to convey the importance of disciplined inquiry, careful documentation, and recording of observations that are key to the reliability of these methods.

Qualitative methods are not useful or appropriate in all contexts, just as, in other contexts, they may be the only ones feasible. Presently there are few good guidelines to or history of documented applications that help a researcher in determining this, and here again the experienced practitioner is at an advantage. If planning educators give these methods more serious attention in their research and teaching, the methods will develop the robustness that will make them even more useful to the field.

This paper draws attention to some of the qualitative methods commonly used in planning, classifies them and identifies the conditions under which they are useful. The objectives are to increase recognition of their importance and to highlight the need to teach them systematically in our schools of planning.

Relationship Between Qualitative and Quantitative Methods

There is some confusion among planners about (1) the relationship between qualitative and quantitative methods: and (2) the distinguishing characteristics of a qualitative method. Regarding the first point, there appears to be an inaccurate perception among planners that the use of either qualitative or quantitative methods excludes the other, that in fact the two approaches are somehow opposed to one another, and that therefore a practitioner must be either a quantitative or a qualitative methodologist. My contention is that not

only are the methods not mutually exclusive in planning practice, but rather, when properly used, they are mutually reinforcing and complementary. This position is echoed in other fields such as sociology (Filstead 1970).[3]

Regarding the second point, there is a prevalent belief that no quantification is involved in qualitative methods, that findings are merely "intuited." But qualitative methods *do* involve making observations and counting, mapping, charting, and analyzing, not just intuiting, the evidence obtained.

How then are qualitative methods different from quantitative ones? In fact, the distinction between quantitative and qualitative methods is not always simple. The major difference between them is in the reason for collecting the information: whether the analysis is influenced more by the statistical significance of the data counted and measured relative to the total population, (its typicality or representative-ness), or by the set of connections, associations, and alternative viewpoints that are revealed. Some qualitative methods are structured so that the researcher gains an understanding of the processes in operation and the linkages that connect a system. These observations are usually not statistically significant.

The specific category, qualitative or quantitative, in which a method is placed is often a function not just of what is done but of those aspects of a problem the method is designed to help examine. Whether a method is qualitative or quantitative depends, in many cases, on what is being done, in what context, with what objectives, and tools, and the relationship between such factors. For example, a set of interviews may be qualitative or quantitative depending on the way in which the interviews are structured (open-ended or not); the nature of the information sought; who does the interviewing; the number of interviews; and the number of individuals interviewed relative to the total

population being studied. Also important are intentions, i.e., whether the researcher expects to be able to claim that the findings are representative of the total population or not.

Three Categories of Qualitative Methods

The qualitative methods used in urban planning can be loosely categorized by the characteristics of the activity they are best qualified to examine. Methods overlap in what they can be used to achieve. Therefore this is not a comprehensive typology useful in selection of a method but a classification largely for heuristic purposes, to help to determine the nature of the problem being addressed and therefore the category of methods that might be useful.

Qualitative methods are useful to gain an understanding of three general categories of activities as follows.

Study of Built Form

The concern for the physical quality of life in planning is rooted in the British Town Planning tradition of physical design, analysis, and intervention manifest today in urban design. Urban planners work with space, territory, infrastructure, concrete built-forms and structures — things that have a tangible presence on the landscape — and the physical, aesthetic quality of this presence in three and even four dimensions. The ways in which aesthetics, in the broadest sense of the word, is influenced by planning activities

are of profound importance in urban planning. Qualitative methods have been developed to doucument and assay the impact of physical interventions such as roads, buildings, and infrastructure on spatial relationships, and for studying their less quantifiable impact on the quality of life, ambience, neighborhood, and communal integrity. Some of the pathbreaking work in this area has been that of Lynch, Appleyard, Hall and Rapoport. Lynch (1960) defined, for the physical planner, ways of looking at and analyzing the form of a city, spatially, visually, and as it was embedded, differentially, in the minds of various citizens of that place. In other books (Appleyard 1964, 1976, 1981; Lynch 1981, 1984), methods were developed and refined that helped to incorporate the users' perceptions and needs into the physical design process. Graphic documents supported by verbal and numerical illustrations were developed in attempts to join architecture, anthropology, psychology, and sociology (Vickery 1972). Hall (1959, 1966) and Rapoport (1969, 1982) introduced the dimensions of psychology and culture into thinking about physical planning. Stea (1982) has written about the problems of communication, education and participation in the process of building in cross-cultural contexts.

Study of Human Interaction

To study human and societal interactions, the planner has available two types of techniques oriented to highlighting linkages and connections between people. One type offers a range of unobtrusive and/or quasi-experimental techniques that minimize the observer's interaction with the observed.

Examples are provided in Webb et al. (1966), one of the earliest presentations of several novel qualitative methods. The six short chapters of the book cover a gamut of methods, potentially of great use to the urban planner, of obtaining measures in ways that minimize disturbance of the system under study. These include sources such as physical traces of erosion and accretion, simple observations, and contrived observations yielding valuable information. Campbell (1966) provides directions and case study suggestions for ways of experimentally exploring the consequences of changing physical reality at a micro scale and examining human reactions to this. Weiss and Boutourline (1966) describe a range of unobtrusive methods applied to analyze effective and non-effective designs of fairs, pavilions, and exhibits. These include in-depth participant observation, quasi-experiments and various measures of erosion and accretion.

More recently, William Whyte's work (1980) on the design of urban public spaces, including his acclaimed 55-minute film (distributed by the Municipal Arts Society of New York) and book entitled "The Social Life of Small Urban Spaces," illustrates the creative use of time-series photographs of public spaces in New York. From these Whyte develops a qualitative analysis of the physical, psychological, and human factors that affect use of various public spaces in New York during the day and through the seasons. He suggests some design and planning guidelines on this basis.

In the other type of techniques the researcher interviews individuals who are considered informants, rather than respondents, to get, in Peattie's words, "stories that are interesting" (Peattie 1983) about what that particular respondent sees as relevant to the general issue under investigation. Peattie and Hirschman are two of the best-known researchers who have very successfully used this method in planning. Peattie (1983) points out that, in qualitative interviews, "typicality" is not the issue. The special stories told by the informants (Peattie carefully reminds us that these are not respondents but informants) are useful because the researcher knows and takes cognizance of where the informants are placed in the system under study. She makes the point that qualitative interviews are particularly useful for understanding issues in which processes and connections are important. They are also very cheap relative to survey work, can be done fast, and can be aimed directly at the specific questions of particular interest to policy makers or program managers.

Study of Planning Process and Organization Structures

The experience of advocacy planning in the 1960s and the discovery of the limits of rational, long-range, allocative planning highlighted the need to elicit community/citizen participation in planning of those to be affected by its results. Subsequent, and growing, attention to planning processes and to organizational structures and their functioning definitively established, by the 1980s, the need to involve people in various aspects of the planning process including decision-making, analysis, and policy formulation. Freire's work on education (1981), Friedmann's writing on transactive planning (1981), and Forester (1982) established some of the theoretical bases for this. Korten's (1980) learning-process approach provides some methods, as does Schon's recent work (1983) on reflection in practice.

Qualitative methods have been used in various aspects of the planning process, including participation in goal-setting, e.g., nominal groups (Bryson and Delbecq 1979) and in the development and design of alternatives, e.g., brainstorming, creativity facilitation and simulation, and systematic design methods (Alexander 1979). Qualitative methods have also been used in eliciting participation in assessment, prediction, and projections as well as forecasting. Gaming/simulation, the Delphi technique and other expert-opinion methods, and scenarios fall into this category. Duke's and Feldt's work in gaming/simulation is of particular note in this context. The uses of gaming/simulation in facilitating communication is elaborated in Duke (1974) and Greenblat and Duke (1981), and its potential to evoke participation at the village level in developing countries is discussed in Dandekar and Feldt (1984). In evaluation, qualitative techniques used in planning include Multi-Objective Decision making (Voogd 1983), and impact assessment, e.g., Planning Balance Sheet (Lichfield et. al. 1973).

Qualitative Methods: Their Potential

Qualitative methods have great potential in planning because they can be applied to issues and problems for which the more accepted quantitative methods are simply inappropriate. Their unique potential is illustrated in examples such as useful reconstructions of the past when only fragmentary evidence is available through the use of unobtrusive measures of erosion or accretion; or the building upon and adaption of existing secondary sources of information not initially produced or intended to be used for planning purposes. (For example, documents such as old newspapers have been examined for signs of what were once "ideas in good currency," old field diaries of cultural anthropologists have been studied for indications of people's diet, food preference, and nutritional level, and tax and revenue figures have been interpreted to provide an idea of settlement size and mix.) Also qualitative methods have been used to help document people's intuitions, perceptions, opinions, and values.

Many of the qualitative methods used in planning are rather familiar, for example, site reconnaissance, windshield surveys, graphics, field interview, micro-case studies, participant observation, unobtrusive measures, expert-opinion surveys, and gaming/simulation. Most of these are discussed in textbooks of planning methods (e.g., Dandekar 1982), and need no explication here. Still, it may be useful to illustrate how some qualitative methods have been used to study activities in the three categories mentioned earlier and to describe insights obtained from their use, insights quantitative measures alone would not have yielded.

Some of the more creative uses of qualitative methods have involved combinations of techniques in research design, for example, joining photographic recording with in-depth interviews and case studies, and comparing this with interpretation of secondary source material to give some temporal dimensions to the changes observed.

One of the best examples of work built on case studies of projects is Hirschman's *Development Projects Observed* (1967), which extrapolated from 11 World Bank projects some generic "structural characteristics" of development process. Equally important was that the book revealed how the values of people, people in the bureaucracies and those affected by the projects, colored their reactions to the proposed changes and therefore the degree of their cooperation in the projects. The overview and typology of attributes of development projects have proven to be of far more generic importance than the sum of the case studies presented in Hirschman's book. It is significant that in his more recent book, *Getting Ahead Collectively* (1984), this original methodology is augmented by addition of many black-and-white photographs that provide a visual dimension to the human, economic, institutional analysis of the earlier book. Hirschman is somewhat deprecating about this recent work, describing it in the preface as "a reasoned travelogue, rather than a scholarly treatise." However, the work is in fact more powerful in its ability to communicate the complexities of the development problem to those outside the field of economics, and perhaps in communicating the texture and reality of the problem to economists too. Hirschman acknowledges this by commenting that the photographs that accompany the text "beautifully evoke the general feeling of these sites; many of them, moreover, provide precise illustrations of specific points made in the text." He later adds: "Most scholars who work in development begin to appreciate the value of pictorial documentation to illustrate and communicate the reality of the society and the people they are trying to convey some information about."

The use of graphics and visual documentation, including film, video-tapes, cartoons, computer simulations, maps, charts, and other pictorial communication in creative and evolving combinations is one of the more significant areas in which qualitative methods are making a major contribution. Whyte's work in this area, already mentioned, has recently received widespread attention and acclamation. Furthermore, the use of such material in planning is no longer confined to fields such as architecture, urban design, landscape architecture, and city planning, which have all traditionally relied on these tools. Sociologists, anthropologists, community activists, and economic development planners have also become aware of the power of the medium for problem-setting and analysis as well as communication.[4]

Another very important and lightly covered area of potentially powerful qualitative measures is that of unobtrusive measures. These were developed, at least in part, to overcome the biases inherent in information obtained by an observer, no matter how well integrated he or she may be in an area or in a group. Unobtrusive measures are innovative attempts to gain information with minimum disruption of the observed activity. Examples range from designs that include making simple

observations, such as the commonly used mechanical devices that measure vehicular or pedestrian activity, to designing research studies such as recording car license plates in various national parks, noting their states of origin to establish the "distance draw" of that particular park.

Measures of physical traces are a potential source of information, particularly for planners who work with built form and space. Webb et al. (1966) classify physical traces into two groups: measures of erosion and those of accretion. Physical measures of erosion or accretion can provide understanding of activities in and uses of a space that can be useful in design. The former might involve noting elements such as vinyl tile flooring in front of exhibits to identify which displays are of greatest interest or documenting worn-out pathways on lawns in public spaces to reveal paths favored by pedestrians.

Certain quasi-experimental techniques are also used imaginatively to collect information. One well-known application is to leave a locked car in different neighborhoods. The time lapse between its placement and vandalization can be used as an indicator of the relative safety, social responsibility, or control in the area. Clearly this is a very gross indicator, as are many obtained from such methods, but often they are the only ones available and when weighted by a good deal of subjective, sensitive interpretation, they can provide useful guidelines for policy and action in arenas where no reliable quantification is available.

Data periodically produced for other than scholarly purposes (e.g., episodic and private records, period surveys of information collected by the Census Bureau or other information collection agencies) and adopting and interpreting them in innovative ways to pertain to the planning

problem at hand are other unobtrusive measures of collecting useful information. Feldt (1982) provides a listing and discussion of secondary sources of information of potential use to planners. An example is a developer who reviews minutes of the preceding couple of years of meetings of the city planning commission and city council to obtain a sense of the types of projects that are controversial in the town. Analysis of the voting patterns may provide some understanding of the politics and the coalitions, existing and potential.

Simulation/games are another qualitative method that has been successfully used for four major purposes: in teaching; in enhancing communication between citizens and professionals; in research to provide an overview of the problem being considered; and in exploring major policy alternatives. There are now quite a few different simulation/games in use in various types of planning. They can be grouped into four major categories: frame games, empathy games, resource allocation games, and process games. Fortunately, the literature on this method is increasing.[5] As a qualitative method for use in urban planning, games are particularly useful in enhancing communications between planner and citizen. Most games do not require high levels of experience or backgound to play. The public can often play such games against traditional experts without being at as great a disadvantage as in other forms of planning communication and discourse. Games also serve to disarm opponents in public conflicts since they create a situation in which antagonisms over real issues can be temporarily forgotten. A well-designed gaming exercise also allows the subjectivity of policy makers to surface and become apparent. Games can also be successfully used in consensus formation, illustrated by a recent project completed by Dandekar and Duke for a multinational corporation.[6]

Conclusion

This paper has not comprehensively addressed the range of qualitative methods currently in use in planning. It presents only a glimpse of activity, widely practiced but only vaguely acknowledged, not forthrightly embraced and "claimed" by the profession.

Qualitative methods are evolving, experimental, innovative, and, in this author's opinion, at the cutting edge of the profession. They attempt to build on methods embedded in several disciplines, to meld them so that they are mutually reinforcing and better able to cope with the multivariate forces and factors that come to play in human society. For these very reasons, they have also been the most suspect, accused of being atheoretical and non-rigorous, and been denied whole-hearted endorsement by the planning discipline. Qualitative methods seek to deal with those aspects that are lost in more sectoral, discipline-based, highly quantified analyses. They are therefore particularly appropriate tools for the planning profession whose mandate is the enhancement of the quality of life in human, societal, physical, and aesthetic terms, terms particularly difficult to assay through quantification. Thus, in the ongoing debate of how best to teach quantitative methods in schools of planning, educators should also address the equally important question of how to introduce even the rudiments of qualitative methods in our curriculum.

Notes

[1]Shulamit Reinharz (1979) discusses the strengths and weaknesses of survey research, participant observations, and experiential analysis, as they are experienced, not as they are described in textbooks on methods. Reinharz states that her book presents a perspective of social science that "can be classified as part of the branch that uses case studies, qualitative data analysis and an inductive understanding of grounded experience and that adopts a reflexive stance on the research endeavor." She goes on to say that she "seeks to reduce the monopoly of quantitative methods on the production of social science knowledge."

[2]For a discussion of the approach and methods used to select, organize, and disseminate relevant information in the practice of urban planning, see Dandekar (1982).

[3]W.J. Filstead's book (1970) is an edited collection of papers, directed primarily at issues and problems encountered by sociologists using qualitative methods. In the editor's words the purpose of the book is "to provoke those who measure everything and understand nothing." What is suggested is the need for more inductive theory. In the introduction the term "qualitative methodology" is defined as follows: "Qualitative methodology refers to those research strategies, such as participant observation, in-depth interviewing, total participation . . . which allow the researcher to obtain first-hand knowledge about the empirical social world in question. Qualitative methodology allows the researcher to 'get close to the data' thereby developing the analytical, conceptual, and categorical components of explanation from the data itself — rather than from the preconceived, rigidly structured, and highly quantified techniques that pigeonhole the empirical social world into the the operational definitions that the researcher has constructed" (p.6). The need and importance of a marriage of qualitative and quantitative methodoloy in the field of sociology is articulated by Morris Seldiatch in a chapter entitled "Some Methodological Problems of Field Studies" (Filstead 1970, pp.217-231).

[4]For examples of work that combines observation and visual documentation in field recording, see Wagner, J., 1979, *Images of Information, Still Photography in the Social Sciences*. The book illustrates the ways still photography can be used in the social sciences to make for a "visual social science." It provides some examples and general discussions that make clear the theoretical and methodological bases. For an example of the use of photographs and graphics in development planning, see Dandekar (1986) *Men to Bombay, Women at Home*. For a discussion of the method, see also John Collier's *Visual Anthropology: Photography as a Research Method*, 1967).

[5]For a listing of the types, names, and designers of significant simulation/games developed in urban planning, see Allan Feldt and Michell Rycus, Analytical Methods, in Dandekar, 1982, pp. 88-93.

[6]Hemalata C. Dandekar and Richard D. Duke successfully completed a game exercise over a period of 1-1/2 years for a Michigan multinational corporation with the objectives of (1) enhancing communication between policy makers within the research division and between the division and other parts of the corporation, and (2) developing consensus around expansion strategies.

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