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Toward a theoretical model of evaluation utilization

R. Burke Johnson

University of South Alabama, College of Education, BSET, UCOM 3700, Mobile, AL 36688, U.S.A.

Abstract

Implicit evaluation utilization process-models were constructed from evaluation theorists, ideas, and explicit evaluation utilization process-models (i.e. already developed models) were located in the literature. The meta-model (i.e. a model developed from other models) was developed from the implicit and explicit process-models and from important ideas reported in recent research on evaluation use (e.g. participation, organizational development and complexity). The model depicts evaluation use as occurring in an internal environment situated in an external environment. The three sets of variables in the theoretical model are the background variables, the interactional or social psychological variables and the evaluation use variables. It is contended that evaluation-for-use will result in longer term effects when ideas from complexity theory, organizational learning and organizational design are employed. The meta-model reported here should be viewed as a theoretical model, offered in an attempt to promote theory development in the evaluation utilization literature. © 1998 Elsevier Science Ltd. All rights reserved.

Keywords: Evaluation utilization; Evaluation use; Evaluation theory; Meta-modeling.

One area of interest in program evaluation since its modern inception has been evaluation utilization. For example, some popular questions have included: How are evaluations used?; Why are they used?; What are the outcomes of program evaluations?; and What factors affect whether or not persons and organizations will actually use the results of evaluations? The evaluation utilization literature has been extensive (Alkin et al., 1979; Alkin, 1991; Cousins and Earl, 1992; Patton, 1978; Stake, 1990; Weiss, 1984) and slow but steady progress has been made in our understanding of evaluation use.

One weakness of the research literature on evaluation utilization is that while many lists of variables that affect use are provided (Boyer and Langbein, 1991; Cousins and Leithwood, 1986; Leviton and Hughes, 1981), few theoretical process-models have been developed that integrate variables into systems, showing the interrelationships among variables. There is a need for additional research that integrates the past literature and offers more holistic and process-focused propositions and conclusions. Not surprisingly, many evaluators have suggested the need for theories and/or models of evaluation and evaluation utilization (Alkin, 1991; Chen, 1990; Chen and Rossi, 1992, 1989; Cousins and Leithwood, 1993; Greene, 1988; Huberman and Cox, 1990; Johnson, 1993, 1995; Shulha and Cousins, 1996; Wang and Walberg, 1983).

The purpose of this paper is to address the need for literature integration and theory development. After providing definitions of the different types of evaluation utilization and describing the 'meta-modeling' approach used in this research study, the research on evaluation use is examined. Implicit models of evaluation use are developed from the writings of several prominent evaluators, explicit models (i.e. already published models) are identified in the literature and reviewed and an integrative theoretical model is provided in the hope of furthering the development of theory in the evaluation utilization literature and community. The theoretical model is abstract enough that it can refer to processes that occur in many places. The model is also specific enough that it can be used to make predictions and suggest how to facilitate evaluation utilization at the local level.

1. Types of utilization

Instrumental, conceptual, process and symbolic use are the most common types of evaluation utilization. Instrumental use, perhaps the earliest type of use examined in the literature, refers to using evaluation findings as a basis for action. It refers to concrete use, to behavior or action, or to 'making direct decisions about changing programs based on evaluation results' (Shadish et al., 1991). Examples of instrumental use include eliminating

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a program shown to be ineffective, modifying a program based on an evaluation, targeting a program to new audiences, allocating new budget outlays for a program and changing the structure of the organization in which a program operates.

Conceptual use, also called 'enlightenment', occurs when an evaluation influences decision makers' and stakeholders' cognitive processing (thinking) about a present or future program (Owen, 1992). Weiss (1980) suggests that over time 'decision accretion' occurs, where experiences with and thinking about past evaluations accrue and influence current decision making. Some examples of conceptual use are becoming aware of evaluation results, becoming aware of features of a program from an evaluation, forming attitudes about a particular program because of an evaluation and developing opinions, attitudes and knowledge about evaluation in general.

A third kind of use is called process use. Process use occurs when behavioral and cognitive changes occur in persons involved in evaluations as a result of their participation (Patton, 1997; Preskill and Caracelli, 1996; Shulha and Cousins, 1996). It results from experiential learning and reflection. Patton (1997) defines process use as 'using the logic, employing the reasoning and being guided by the values that undergird the profession' (p. 88). Process use involves learning to think like an evaluator and it may have long term payoffs through improved skills, improved communication, improved decision making, increased use of evaluation procedures, changes in the organization and increased confidence in and sense of ownership of evaluation products. Process use partially overlaps with instrumental and conceptual use.

A fourth kind of use is, symbolic use, which occurs when individuals use evaluation information for political self-interest. The symbolic user has ulterior motives for involvement with the evaluation. Pelz (1978) has long contended that this kind of use is common. This kind of use has also been called 'conspiratorial' use (Huberman, 1987). Two related kinds of use are legitimative use, which refers to uses of evaluations that 'justify decisions already made about the program' (Owen, 1992) and persuasive use, in which individuals use evaluations as part of the political process to advocate issues and persuade people to act (Patton, 1997).

2. Meta-modeling

Meta-modeling is a term I coined to refer to developing models from models.[1] I view meta-modeling as an inductive theory-building approach using a specific data source, namely published research studies. Implicit process-models are constructed (i.e. models describing researchers' ideas about a phenomenon are constructed during a review of the literature) and explicit process-models (i.e. already depicted models) are located in the literature and added to the growing set of models. Then, systems of concepts, categories, and variables are pulled from the implicit and explicit models and are integrated into a new, holistic meta-model. Links between the variables or concepts should be based on prior research whenever possible. Researchers can also add concepts or variables into their meta-models that are either missing from published literatures or were present but were not included in the implicit or explicit models. The process thus involves a mixture of empiricism and rationalism. The theoretical process-model developed for this article is a meta-model and is shown in Fig. 19.

After an initial meta-model is developed, model construction and refinement continue until the researcher is satisfied that the best model has been obtained. During the process, new variables may be added and others may be deleted. The rule of parsimony may be invoked. Researchers should refine the model by reflecting and returning to the literature and examining the models in a new light. They may also look at related models and concepts that were not considered relevant during earlier runs. Each time a developing meta-model is changed, it should be checked for its 'fit' with theoretical and empirical results reported in the literature. That is, Is the model 'grounded in' the original data? (see Strauss and Corbin, 1990 for a discussion of grounded theory and the idea of model 'fit'). I think the model should also be checked for its 'viability'; Does the model stand alone as an effective and useful model?; Does the model seem to explain its domain of interest?; Does the model perform well compared to other currently available models?; and Can someone make predictions using the model? The model may also be subjected to journal referees and also to the general research community through publication. Over time, a published model will probably be modified again and new models will be published that challenge the original model.

Meta-modeling, as it is defined here, has some similarities to the type of traditional theory building and testing called 'causal modeling' in that models are developed from previous theoretical and empirical results (Asher, 1983; Blalock, 1969; Davis, 1984). However, the traditional causal modeling approach focuses more on model testing (confirmation) than on model discovery and development. The three traditional criteria for establishing causality in the causal modeling approach should also be used when developing a meta-model. They are (1) checking for association or covariation to establish the existence of a relationship between variables, (2) determining the temporal ordering of variables (usually from

[1] Owen (1992) used the term meta-model to refer to a model he developed. Building on Owen, I use the term 'meta-modeling' to refer to the process of developing a model from other models as described in this section.

previous theory, but also through several statistical and design techniques) to establish the direction of the causal relationship and (3) making attempts to eliminate the viability of alternative explanations of the observed and/or theoretical relationships. This means that third variables are either quantitatively or qualitatively 'eliminated' in order to establish that the variables are causally related rather than spuriously or coincidentally related.

The meta-modeling approach, as defined here, is very similar to the grounded theory approach popular with qualitative researchers (Glaser and Strauss, 1967; Strauss and Corbin, 1990). The strategy in grounded theory and meta-modeling is to inductively search for categories, to describe their properties and dimensions and to order the categories. The meta-modeling approach produces models that are 'grounded' in the research literature. The key difference between grounded theory and meta-modeling is that the data sources differ. Grounded theories are usually developed using original qualitative data. Meta-models, as defined here, are developed from implicit and explicit models that are based on qualitative or quantitative data or from purely theoretical models not directly based on empirical data. Meta-modeling also has some similarity with the technique called 'meta-ethnography' where ethnographers construct integrative ethnographies based on other published ethnographies (Noblit and Hare, 1988).

3. Implicit evaluation utilization process-models

As part of the meta-modeling approach, implicit process-models were identified in the literature and from these, process-models were constructed. In an implicit process-model, variable ordering or process is implied but is not directly depicted by the evaluator. In the present study, simplified versions of the implicit process-models of several prominent evaluators are given. My goal was to draw pictures (i.e. visual models) based on the evaluators' discussions of evaluation utilization that are suggestive of their key ideas. In this way we can see what their models might look like and we can compare their models with the explicit models that are provided by other evaluators. It is inevitable that the implicit models will not do full justice to the evaluators' work. For example, feedback is not shown in any of the models. To learn more about these evaluators' views on evaluation use, the reader is directed to the literature published by them.

The first theorist reported who has an implicit process-model is Campbell (1963, 1969). Campbell contends that the major responsibility for use of evaluations lies in the political process, not with the evaluator. His 'evolutionary epistemology' predicts that over time the better programs will survive and society will be improved (Campbell, 1984, 1988). The evaluator is viewed as a scientist conducting evaluations with the best methods possible (especially, but not limited to, 'true' experiments; Campbell (1988)). She or he does not, however, directly promote the use of findings. Campbell sometimes seems to optimistically assume that evaluations will be used when they are well done. The Campbell model might be labeled the traditional model of evaluation use. The model does not delineate very clearly what factors result in evaluation use. A depiction of Campbell's ideas is shown in Fig. 1.

Fig. 1. Campbell's implicit process-model.

Scriven (1974, 1983) has implied a summative or 'consumer reports' type model of evaluation in which the evaluator examines the comparative strengths and weaknesses of a program and makes a final judgement of worth—is the program 'good' or is the program 'bad'? Consumers of programs are like consumers of other products, making rational choices. While Scriven also advocates using many additional ideas from the utilization literature (Scriven, 1991), only his consumer reports implicit process-model is presented in Fig. 2.

Weiss (1984), perhaps more than any other prominent theorist, suggests that little instrumental use occurs. She contends that most use is through enlightenment. Over time decision accretion takes place, that is:

> Policies are not made at a single point in time; they seem to happen as the result of gradual accretions, the build-up of small choices, the closing of small options and the gradual narrowing of available alternatives. (Weiss, 1976, cited in Shadish et al., 1991, p. 192).

This important type of use is difficult to measure because it is conceptual; it is not tangible.

Weiss (1983) offers an interesting implicit process-model of decision making at the individual level of analysis called 'I-I-I Analysis'. She says decisions are the result of three major influences: (1) information, (2) ideology and (3) interests. The influence of these three factors is tempered by the organizational environment in which the person resides (Alkin, 1990). Furthermore, when making a decision, decision makers conduct 'truth tests' (i.e. does

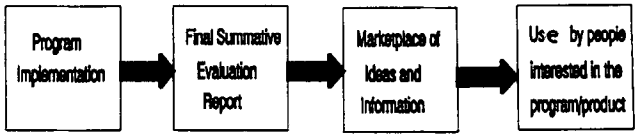

Fig. 2. Scriven's implicit process-model.

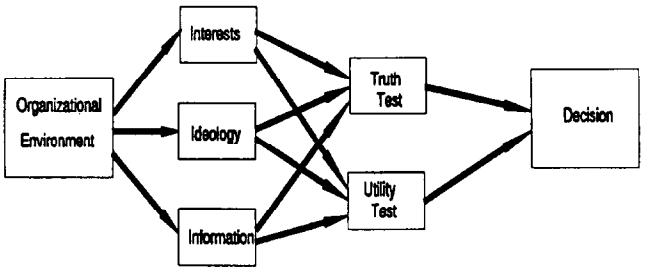

Fig. 3. Weiss's implicit process-model.

it conform to prior knowledge?) and 'utility tests' (i.e. is the evaluation feasible and action oriented?) (Weiss and Bucuvalas, 1980).

A depiction of the process described by Weiss was constructed for this research. It is shown in Fig. 3.

Wholey (1983, 1985) has written extensively about instrumental use. He suggests that evaluation should directly serve the needs of management. If the potential for use of an evaluation does not exist (which he would determine from an 'evaluability assessment') then the evaluation should not be done. Wholey (1985) offers advice on how to manage programs and how to use evaluative information as part of management. In other words, his focus is on instrumental use (i.e. immediate tangible use) through effective management. He does not question whether a program meets social needs or not; he allows managers and policy makers to make that decision. Wholey's focus is on program improvement and effective management and it is the evaluator's job to work with management to improve programs. His approach to management is quite compatible with modern organization development theory (Carnall, 1990; Harvey and Brown, 1992).

Wholey infrequently recommends use of the rigorous experimental methods advocated by Campbell (1969, 1988) for program evaluation. Wholey contends that programs are usually characterized by limited resources and purposes. Expensive evaluations cannot always be done. Wholey (1979), therefore, recommends a 'sequential purchase of information'. This involves, in order of increasing expense, the following: (1) Evaluability assessment, (2) Rapid feedback assessment, (3) Performance monitoring and (4) Intensive evaluation. Each of these could probably be modeled. In general, however, a model of Wholey's ideas about evaluation use might look like the one given in Fig. 4.

Stake's favorite research method is the qualitative case study (Stake, 1981, 1995). His approach to evaluation, called 'responsive evaluation', basically means orienting evaluations to program activities and stakeholders' needs (Stake, 1975). Through a kind of participatory approach to evaluation, a qualitative report based on detailed description is produced. The evaluator tells a story and after reading this story (i.e. the report), readers should be able to make naturalistic generalizations (Stake, 1990). That is, readers are said to vicariously experience a program and then generalize, based on their experience, to other environments, people and programs—this is a kind of conceptual use. The model developed from Stake's implicit process-model of use is depicted in Fig. 5. As shown in the model, Stake believes that use of the case study method ultimately increases evaluation utilization.

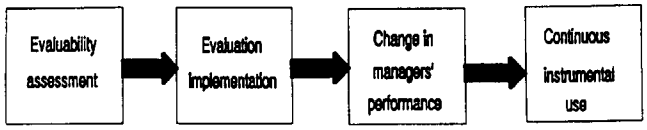

Fig. 4. Wholey's implicit process-model.

In contrast to Campbell (1986) who emphasizes local molar causal validity and Scriven (1980, 1983) who emphasizes summative evaluation, Cronbach (1982) contends that it is the evaluator's job to show in detail the processes going on in a program. The main reason for doing this is generalization. Cronbach talked about, for example, aptitude-treatment-interactions and multiple-variable interactions (Cronbach, 1957). He suggests that 3-way, 4-way, 5-way or greater interactions are necessary for describing the social world (Cronbach and Snow, 1977). Cronbach wants to examine processes going on in a program, and he wants to be able to generalize to other, sometimes dissimilar programs, people and places (Cronbach et al., 1980; Cronbach, 1982).

Cronbach et al. (1980) contend that a major purpose of evaluation is for conceptual use (or enlightenment). To this end, the evaluator may wish to reveal findings to stakeholders continuously during an evaluation. The evaluator should 'hang around', an evaluation site. In general, results should decrease stakeholder uncertainty about the operation of the program. The evaluator is to carry out an 'educational' role. Because much use of evaluation occurs over the long term and for programs other than the one being evaluated, all programs will benefit from accumulated theoretical knowledge. Finally, Cronbach has advocated the use of 'standing committees of experts' to synthesize findings from evaluation research. A tentative construction of Cronbach's implicit process-model of utilization is shown in Fig. 6.

Rossi suggests that to increase use evaluators should 'tailor' evaluation activities to local needs (Rossi and Freeman, 1993). In general, how this is done depends on the stage and kind of program that is being evaluated. This process of 'fitting evaluations to programs' can be viewed as an approach to increasing evaluation use. Apparently if one were to conduct the wrong type of evaluation, it would be 'useless'. Further, it is predicted that Rossi would suggest that forming a congruence between evaluation and need fosters use. Rossi's collaboration with Chen about the importance of program theory can also be seen as suggesting how to facilitate evaluation use (Chen and Rossi, 1983, 1989). Theory

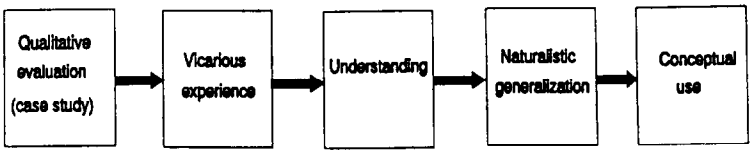

Fig. 5. Stake's implicit process-model.

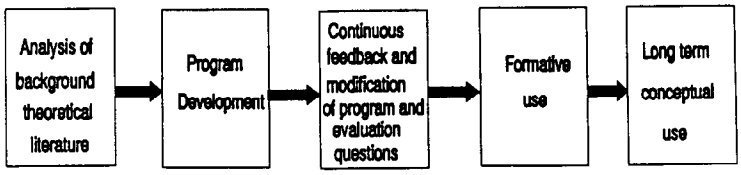

Fig. 6. Cronbach's implicit process-model.

enables one to know what is going on in the 'black box' and therefore, to understand and do something about the operation of a program.

A tentative depiction of Rossi's ideas is shown in Fig. 7.

The last implicit process-model from the evaluation utilization literature was developed from a 1984 paper by Weiss. Weiss suggests that evaluators can make the largest impact on evaluation use when policy is being transformed into an evaluation formulation and when evaluation findings are being put into action. She contends that there are two major kinds of obstacles to use: (1) intellectual-cognitive and (2) social-structural. Weiss discusses what an evaluator can do to increase use and when he or she should do it. The utilization facilitation process is modeled in Fig. 8.

4. Explicit evaluation utilization process-models

Explicit process-models are process-models that are constructed by researchers and generally, appear in articles and books. Empirical models that are directly tested on empirical data can be also viewed as explicit process-models (e.g. a single regression equation which is based on a direct effects model or a full structural equation model). Some theoretical and empirical explicit models that have appeared in the literature are presented now.

One frequently cited explicit process-model of evaluation utilization was developed by Greene (1988), see Fig. 9. Greene empirically generated a grounded theory model using qualitative methods (i.e. two field studies). She studied two local program evaluations—a youth employment program and a day-care information and referral program. She suggested that stakeholder participation in the evaluation is an effective way to promote evaluation use. Based on the program data, Greene categorized stakeholders into three groups: (1) VIPs (very involved persons), (2) SIPs (somewhat or sometimes involved persons) and (3) MIPs (marginally involved persons). According to Greene's participatory approach, the evaluator should get people involved in the formulation and interpretation phases of the evaluation in order to increase evaluation utilization. Therefore, VIPs are to be desired (Greene, 1988). As can be seen in Fig. 9, Greene views participatory evaluation as a three-stage process. The three stages are (1) the 'Participatory Evaluation Process', (2) 'Uses of the Evaluation Process' and (3) the 'Process of Utilization'. Elements in stage one are said to affect elements in stages two and three; elements in stage two are said to affect the 'greater understanding' part of the stage three utilization process. Therefore, one interesting feature of this model is that it includes indirect effects. Also, it operationalizes utilization as a process.

Another model of evaluation use was originally developed by Cousins and Leithwood in 1986 and was updated in 1993. Although the 1993 version is a knowledge utilization model, the authors point out that it should be viewed as a direct extension of their 1986 evaluation utilization model. The key extension is the inclusion of an 'interactive processes' factor. The 1993 model,

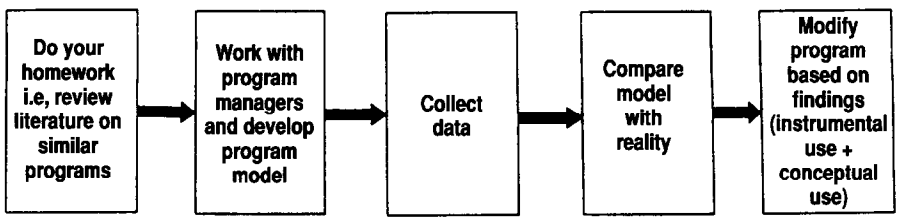

Fig. 7. Rossi's implicit process-model.

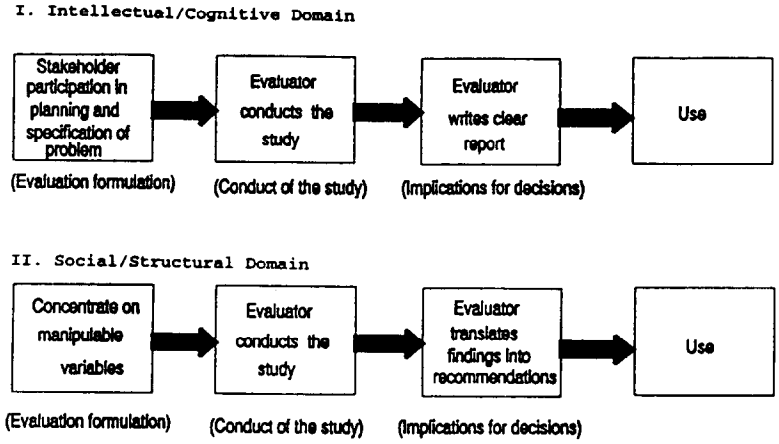

Fig. 8. Weiss's second implicit process-model.

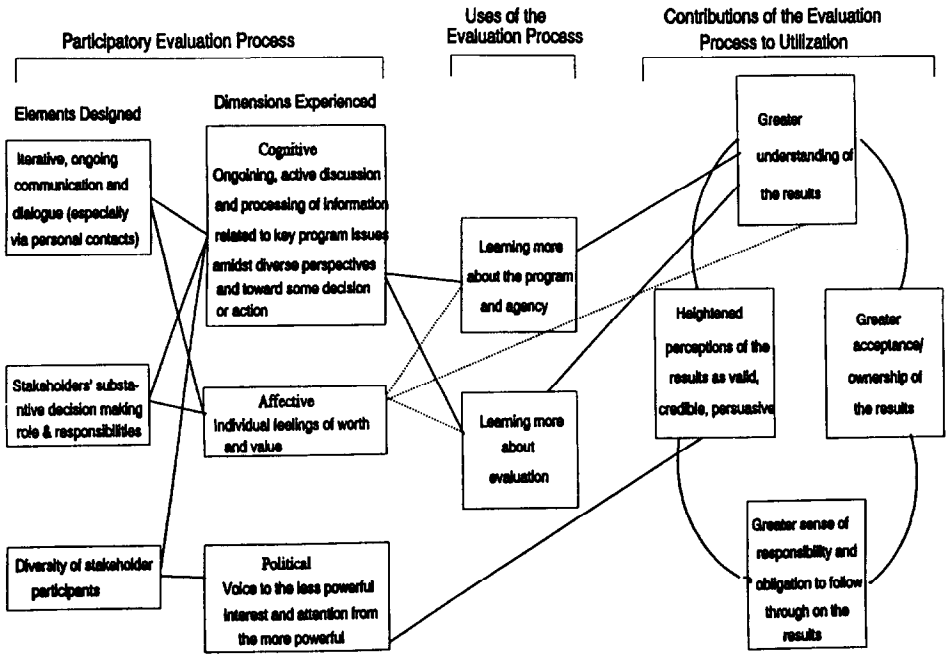

Fig. 9. Greene's explicit process-model.

shown in Fig. 10, divides seventeen utilization factors into three more abstract factors called 'Characteristics of the Source of Information', 'Improvement Setting' characteristics and 'Interactive Processes'. All three of these sets of factors are shown to directly affect utilization. The first two sets are also shown to have indirect effects on utilization through their effects on the interactive processes factor.

The next model comes from an evaluation-for-use applications book by Alkin (1985). Alkin is one of the earliest researchers in the evaluation utilization literature (Alkin et al., 1979). In the 1985 book, Alkin includes a list of variables needing consideration when one is evaluating for use. He suggests that practicing evaluators consider human factors, context factors and evaluation factors. Listed under human factors are evaluator characteristics and user characteristics. Listed under context factors are pre-existing evaluation bounds (e.g. written, contractual and fiscal constraints), organizational features and project characteristics. Finally, listed under evaluation factors are evaluation procedures, information dialogue, substance of evaluation information and evaluation reporting. Alkin organizes what he sees as the most important of these aforementioned factors into the concepts shown in the process-model in Fig. 11.

Patton (1997, 1984) is the founder of 'Utilization-Focused Evaluation'. In this approach, an evaluator only conducts an evaluation when it has a realistic potential for use. The evaluator is supposed to consider potential use at every stage of the evaluation (1988). In the begin-

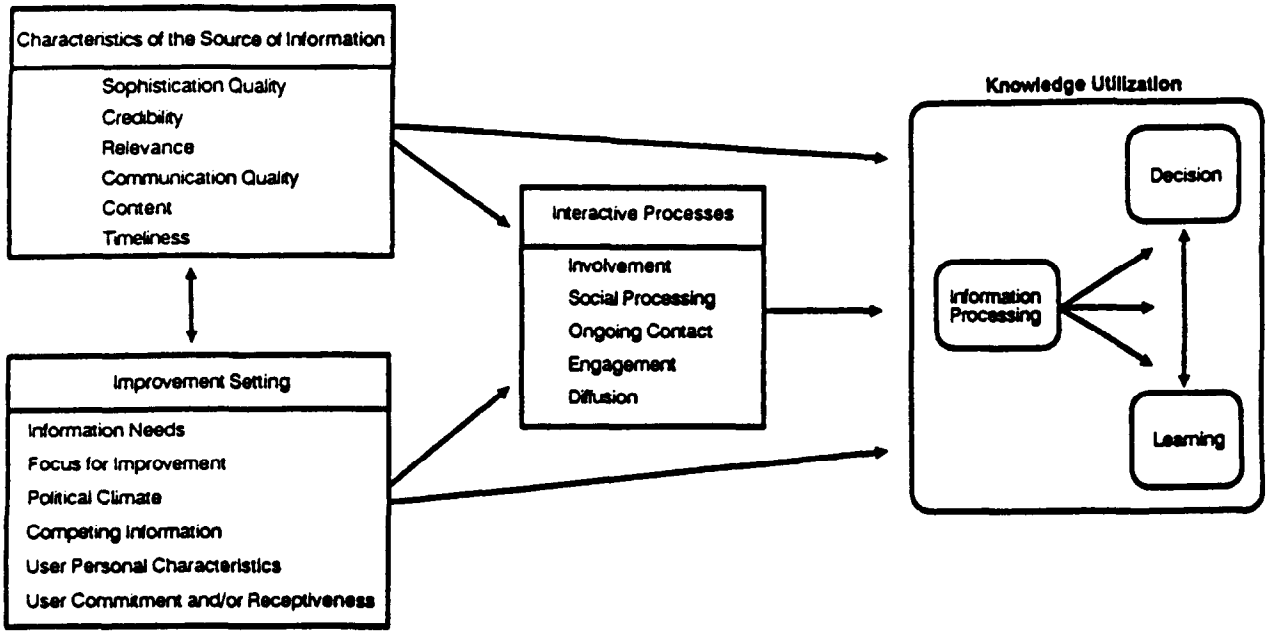

Fig. 10. Cousins's and Leithwood's explicit process-model.

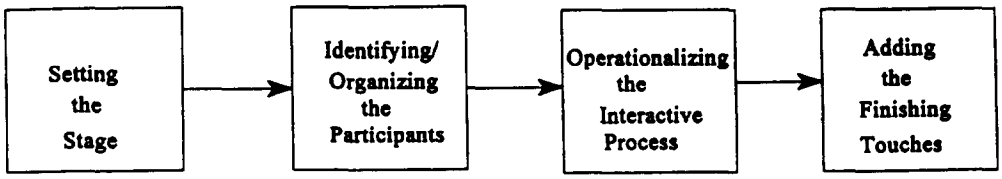

Fig. 11. Alkin's explicit process-model.

ning stages, the evaluator identifies and works with potential users. The most important users are organizational decision makers and are called 'primary intended users'. The evaluator works with the primary intended users in deciding what and how to evaluate. Information that would be helpful in decision making is collected using a design created through a collaboration of the evaluator and the primary intended users. At the end of this process, use by intended users is considered to be likely. An abridged version of Patton's process is shown in Fig. 12.

The next researcher, Wollenberg (1986), studied the use of evaluation in two school districts using fieldwork methodology over an extended period (i.e. a complete school year). Extensive qualitative data were collected. The data were analysed in three ways: (1) using Alkin's 1979 categories, (2) through 'forms of use' (including direct use, legitimative use, persuasive use, conceptual use and anarchic use) and (3) through 'time periods/cycles of program implementation/growth' (i.e. data were categorized into the three cycles, in effect creating a time-process variable). The three cycles of program growth included a conceptual stage, a developmental stage and an institutional stage. Wollenberg's depiction of the interaction of evaluation users, types of use and program cycles is shown in Fig. 13.

An additional model, developed by Wollenberg (1986) is useful because it depicts the evaluator's communication pattern in two different kinds of organizational structures (Fig. 14). The two structures are, first, a 'loosely-coupled' system (i.e. a decentralized, bottom up system) and second, a more tightly controlled, but smaller, system

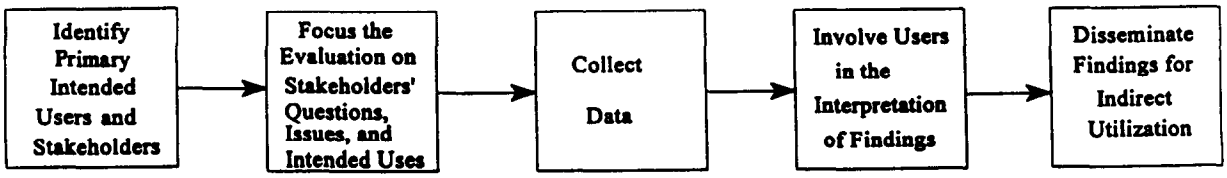

Fig. 12. Patton's explicit process-model.

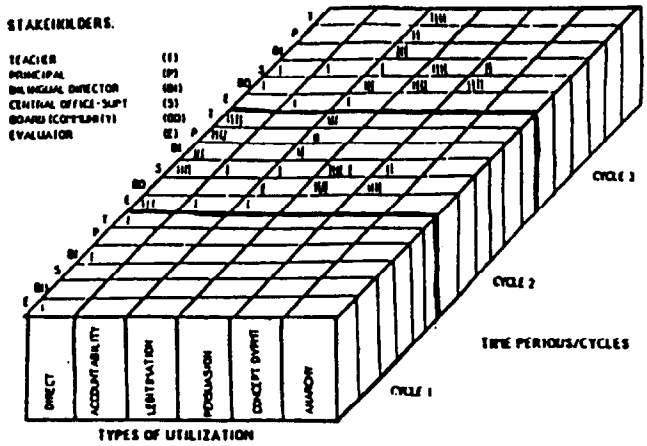

Fig. 13. Wollenberg's depiction of interaction of stakeholder, type of utilization and evaluation cycle.

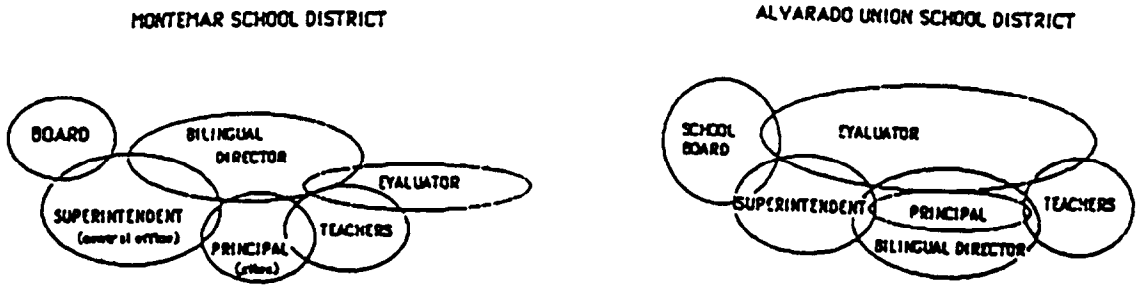

Fig. 14. Wollenberg's depiction of coupling in two California School Districts.

(i.e. a more traditional bureaucratic hierarchical form). In the loosely coupled system the evaluator communicated mainly with a bilingual director and teachers (see diagram for Montemar School District). The bilingual director played a 'gatekeeping' role in the Montemar School District (i.e. deciding who obtains information about the evaluation). In the 'tighter' district (i.e. Alvarado Union School District), the evaluator was the gatekeeper and hence, communicated with all of the major stakeholder groups. The use of these two models is in showing who communicates with whom in the overall organization. Even though the model is not a utilization model *per se*, Wollenberg pointed out that coupling affects communication which affects utilization.

The next explicit process-model was created by Boyer for his dissertation (Boyer, 1989). He carried out a quantitative study and used multiple regression analyses to compare the importance of variables known, from the previous literature, to influence utilization. Boyer examined utilization of evaluation reports by members of Congress and key Congressional staff-persons. Recommendations were the unit of analysis. The study was based on a sample of 100 Congressional staff who had direct evaluation use experience.

The results were based on several regression equations. When using one simple or multiple regression equation for explanatory purposes, one is using a model of 'direct effects only'; that is, it is hypothesized that each of the explanatory variables has a direct effect on the outcome variable (controlling for the other explanatory variables). Before conducting the regression analyses, Boyer found that all of the independent variables had statistically significant bivariate relationships with utilization. The regression tables can be found in Boyer (1989) and in Boyer and Langbein (1991). Some of the explanatory variables that were important in predicting utilization were clarity, absence of a detractor, communication, relevance to Congress, character of the timing, credibility of methodology and reputation of performer.

Another quantitative study of evaluation utilization was conducted by Johnston for his dissertation (Johnston, 1986, 1988). In this study, Johnston drew arrows depicting his assumption of direct effects. One of several sub-models reported is provided in Fig. 15.

Johnston reported nine empirical models in his dissertation; for each model he changed one or more of the outcome or explanatory variables. The model in Fig. 15 is given here only as one example.

Johnston found that his variable 'type of change' was the best predictor of evaluation utilization. In order, from easiest-to-achieve utilization to hardest, the change dimensions were (1) behavior changes, (2) changes in

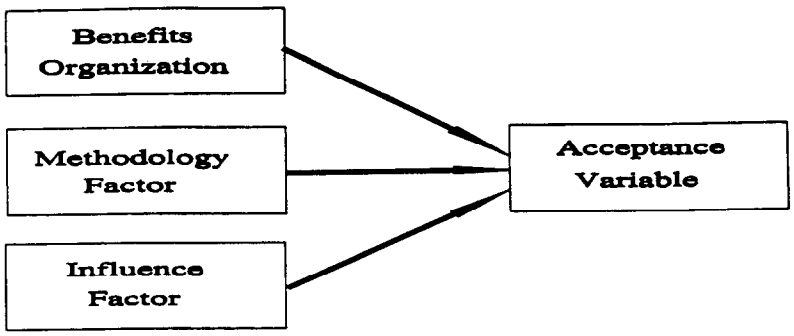

Fig. 15. Johnston's direct-effects model of evaluation acceptance.

rules, (3) organizational structure changes and (4) changes in goals and purposes. The other two variables found to be statistically significant predictors of utilization were influence (i.e. pressure from politically powerful external agencies) and study methodology (e.g. conceptualization, generalizability, reliability and validity, and use of literature).

In the next study reviewed, Huberman developed a series of models to depict the process of research utilization (Huberman, 1987, 1990, 1994–1995). He developed a 'general model' which integrated the other models in his paper. The other models included (1) an 'organizational model: researchers', (showing how researchers influence the dissemination and utilization process), (2) an 'organizational model: users', (showing how users of research are influenced by dissemination effort and the 'predictors of local impact/use') and (3) a 'dissemination effort model' (which showed the sets of variables affecting dissemination efforts). Huberman's general model is shown in Fig. 16 (Huberman, 1987, 1990).

As seen in the Figure, Huberman's explicit process-model is the most extensive of the models reviewed here. The model was used to depict the causal process operating in a series of local projects that were part of a national program created by the Swiss National Research Council. In the 1987 article, the projects were ongoing and the 'integrative' models were used as preliminary depictions of project processes. In the 1990 article, the projects had been completed and Huberman used a 'multiple-case, tracer study' design. Basically, Huberman followed the eleven projects (from a population of 25 projects) from beginning to 18 months after completion.

Huberman's results showed, empirically, that linkages between researchers and practitioners were important for utilization (especially conceptual). Furthermore, he found that new collaborative relationships frequently developed as a result of practitioner participation in the evaluation. It was important that practitioners participated in the evaluation before its conduct, during its conduct and at the end. Participation during the ongoing evaluation was especially important.

The next explicit process-model was developed and empirically tested by Johnson (1980). This is the only path-analytic study of evaluation utilization found in the utilization literature. To empirically test the model, Johnson collected data from 75 decision makers who worked for 25 organizations. The decision makers had been exposed to 'one or two of 19 evaluation products produced by university personnel and students' (Johnson, 1980). In-person interviews and paper-and-pencil questionnaires were used for data collection.

Johnson's model is shown in Fig. 17 with the standardized partial regression coefficients placed on the arrows. Each coefficient shows the standard deviation change in the variable receiving the arrow (i.e. endogenous variable) given a one standard deviation change in the causal/independent variable.

As seen in Fig. 17, contact and involvement had the most important influence on evaluation use (using standardized coefficients as the 'relative importance' indices). Transfer intensity and compatibility of results also had direct influences on evaluation. Linkage roles had a clear indirect influence on evaluation use through direct effects on two intervening variables of evaluation use (i.e. transfer intensity and compatibility of results).

The last explicit process-model was developed by Owen (1992). Delineating, obtaining and reporting refer to the conduct of an evaluation in Owen's model (Fig. 18). Following an evaluation, evaluation findings are transmitted and enlightenment occurs. As a result of enlightenment, additional forms of use occur. A strength of the model is that conceptual use or enlightenment is shown to occur before instrumental or behavioral use.

5. A meta theoretical process-model

In reviewing the implicit and explicit models of evaluation utilization and other published lists of utilization variables, several key categories and themes emerged as facilitators of evaluation utilization. Participation by program evaluators, participants and practitioners was consistently found to be an important facilitator of

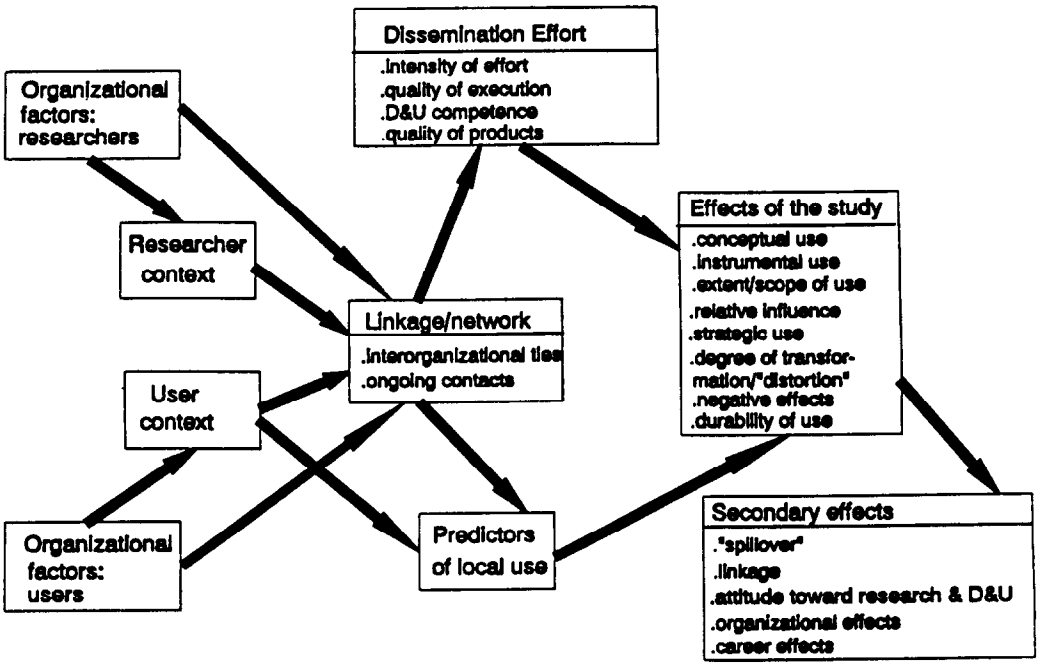

Fig. 16. Huberman's explicit process-model.

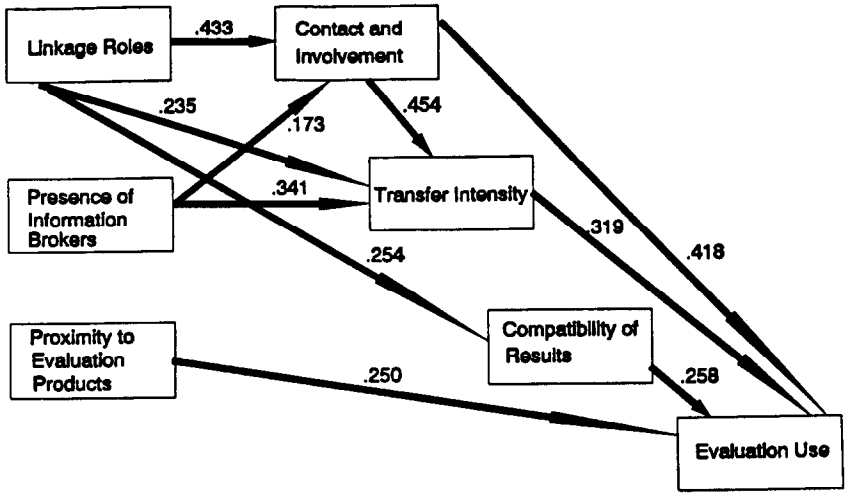

Fig. 17. Johnson's explicit process-model.

utilization (Alkin, 1985; Cousins and Earl, 1992; Cousins and Leithwood, 1993; Greene, 1988; Owen et al., 1994; Patton, 1997). Some properties of participation include the type of participation (e.g. autocratic or democratic and open or closed) and the degree of participation (varying from great to small). Organizational process and ongoing commmunication were also important components of the utilization process (Huberman, 1987, 1990; Johnson, 1995; Wollenberg, 1986). Some possible properties or subcategories are quality of communication (e.g. clear/not clear; high fidelity or low fidelity), openness of organization to communication and change (e.g. open or not open), timeliness of communication, dissemination (e.g. 'Was feedback given during the program or at the end as in a traditional report?' and number of people, organizations, and people included in the dissemination/discussion), type and direction of communication (e.g. vertical, horizontal and diagonal; high bandwidth or low bandwidth) and distribution of power (e.g. power through status or position vs widespread empowerment of employees and managers using information and idea power) (Greene, 1988; Huberman, 1994–1995; Huberman and Cox, 1990; Siegel and Tucker, 1985). Feedback, which is probably part of the organization/communication variable just listed, also appeared to be part of the utilization process (e.g. some possible dimen-

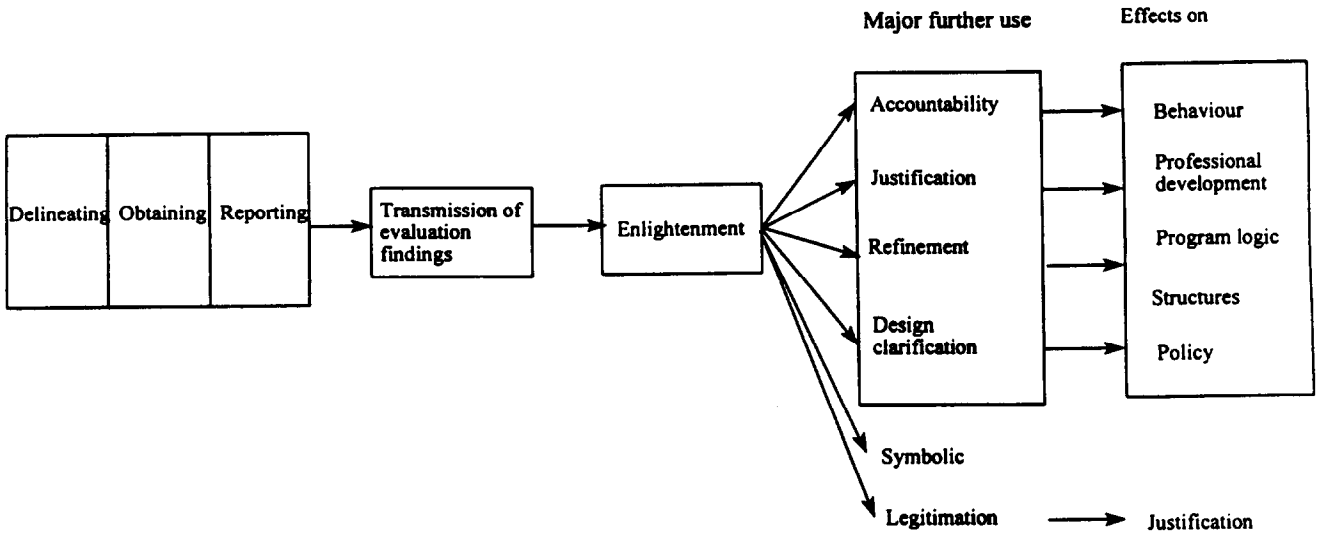

Fig. 18. Owen's explicit process-model.

sions are timeliness, frequency, depth and consensus building). Politics and self-interested decision making were important utilization factors (e.g. formal and informal political cultures, and individuals' self-interests, ideology, utility and power) (Chelimsky, 1987; Newman et al., 1987; Weiss, 1983, 1984). Use management was another important variable (e.g. evaluability assessment, selection of appropriate methodology, management commitment and use of organizational design and development principles) (Dibella, 1990; Patton, 1997; Wholey, 1983,1985).

A multidimensional conceptualization of the outcome variable (i.e. evaluation utilization) was developed, with cognitive use (e.g. general cognitive processing based on evaluation participation), behavioral use (e.g. instrumental use) and organizational learning (e.g. changes in the organizational culture) being especially important. Process use is often part of cognitive use. For example, a stakeholder may develop an 'evaluation schema' while participating in an evaluation (i.e. he or she learns how to think like an evaluator). Conceptualizing cognitive use as affecting behavioral use is in line with current social and cognitive theory. That is, some form of cognitive processing virtually always precedes behavior. Cognitive use is viewed as including awareness of an evaluation, thinking about a program or evaluation and the development of attitudes, beliefs and opinions about a program as a result of an evaluation and participation in it. It also includes the development of skills and ways of thinking as a result of participating in an evaluation. These cognitive schema may affect behavior toward particular programs currently being evaluated and behavior toward future programs via enlightenment. Behavioral use involves action and it is closely aligned with instrumental use, but it may also include symbolic and legitimative use (Owen, 1992), persuasive use and process use. All of the forms of use occur as iterations occur through the theoretical model during and after a program evaluation.

Organizational learning (Fiol and Lyles, 1985; Levitt and March, 1988; Senge, 1990) is another important concept that is gaining in popularity in the evaluation utilization literature (Forss et al., 1994; Cousins and Earl, 1992; Preskill, 1994). Organizational learning is an interdisciplinary change theory integrating ideas from, but not limited to, learning theory, organizational behavior, organizational theory, organizational development, constructivism, complexity theory (defined below) and cognitive science (Coveny and Highfield, 1995; Guba and Lincoln, 1989; Mainzer, 1994; Senge, 1990; Waldrop, 1992). It focuses on how people operate in a dynamic learning system, how they come to create and understand new ideas, how they adapt to constantly changing situations and how new procedures and strategies are incorporated into an organization's culture (defined below), structure, policies, memory and individual human minds. It is a theory of complex and dynamic systems (Coveny and Highfield, 1995; Senge, 1990).

Forss et al. (1994) found that organizational learning resulting from an evaluation sometimes takes place through organizational members becoming involved in the evaluation process and communicating about it. Organizational learning involves changes in the people of an organization as well as changes in organizational structure, operating procedures and culture. The theory of organizational learning should provide evaluators with a helpful framework for understanding and creating cultural and structural change and promoting long-term adaptation and learning in complex organizations operating in dynamic environments. One goal would be to

create an active learning organization (i.e. an organization with a culture and structure supportive of learning and growth). Organizational learning was not in any implicit or explicit models reviewed above. It is, however, part of the final theoretical model in Fig. 19.

It seems clear, in review, that evaluation use is a continual process that evolves and changes shape over time. Models showing relationships among variables, therefore, are needed and these models should specify change and temporal development. The general theme from the above analysis goes like this:

> Evaluation utilization is a continual and diffuse process that is interdependent with local contextual, organizational and political dimensions. Participation by program stakeholders is essential and continual (multi-way) dissemination, communication and feedback of information and results to evaluators and users (during and after a program) help increase use by increasing evaluation relevance, program modification and stakeholder ownership of results. Evaluators, managers and other key stakeholders should collaboratively employ organizational design and development principles to help increase the amount and quality of participation, dissemination, utilization and organizational learning.

In grounded theory development a general theme like this is called a story line (Strauss and Corbin, 1990).

During the review of the implicit and explicit process-models, I developed several integrative models. Because earlier versions included too many variables for parsimony, later versions became smaller and slightly more abstract. Using an iterative approach of going back to the literature, making model changes (i.e. eliminating and consolidating variables) and deciding on model fit, the theoretical model shown in Fig. 19 was developed. The model includes the general factors considered most important in evaluation utilization.

Definitions of the constructs used in Fig. 19 and definitions of selected terms used in the discussion are given now. The constructs used in the theoretical model are marked with asterisks.

*Behavioral Use**

Once becoming aware of an evaluation and the program, behavior or action may result. This

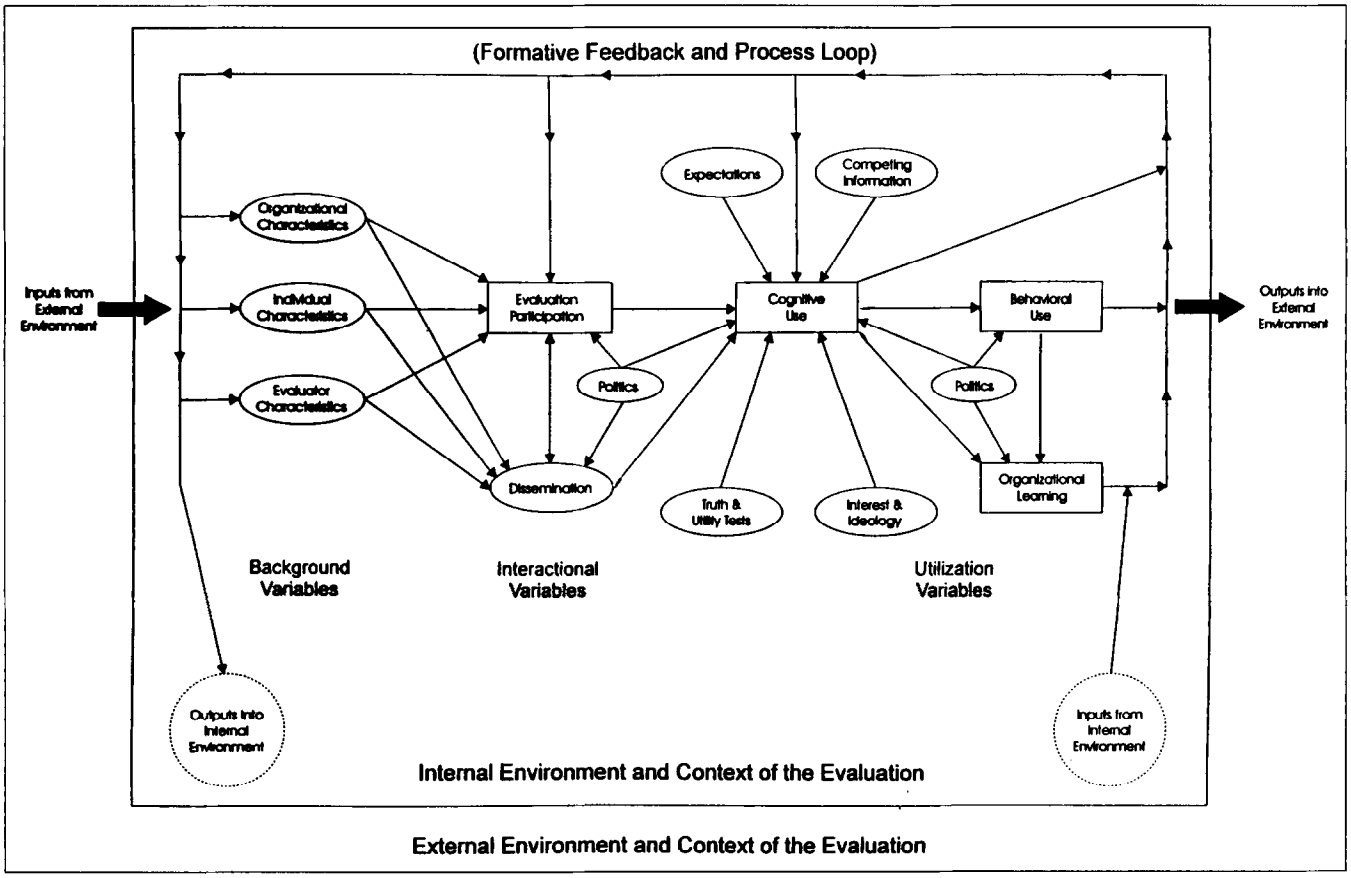

Fig. 19. A theoretical model of evaluation utilization.

behavior mainly includes instrumental use, but may also include symbolic use, legitimative use, and action oriented process use.

*Cognitive use**

This is the cognitive processing construct in the model. It refers to the degrees to which people involved in or directly related to the program are aware of the evaluation, think about the information and form attitudes, beliefs, knowledge, skills and opinions about the program being evaluated. It also includes changes not related to the evaluation findings but result from participating in the evaluation (i.e. process use). People may cognitively develop an evaluation schema or mental model (i.e. they are able to think like an evaluator thinks). The schema may activate, for example, procedural and tacit knowledge. Cognitive use includes cognitive oriented process use, enlightenment and conceptual use, and individual learning.

Complexity theory

A term which includes, but is not limited to chaos theory. It is used here to suggest a complex world of open, dynamic systems, based on non-linear (and linear) relationships, self-organization principles, feedback loops, strange attractors, perturbations, bifurcations, phase shifts and sensitivity to initial and changing conditions. One example is the 'butterfly effect' where a very small perturbation to a system may lead to major consequences that would have been unpredictable based on estimates derived from an analysis of the initial conditions.

*Competing infomation**

Information types and loads in organizations that may affect participation in and decisions about programs being evaluated (e.g. it varies from low amount of directly competing information to high amount of directly competing information).

*Dissemination**

Interpersonal and intergroup communication of information. This may take place formally (e.g. via memos, reports and meetings) and/or informally (e.g. through social networks and 'grapevine communication').

*Evaluator characteristics**

Two contrasting types are evaluation-for-use/person-focused evaluators and research-focused evaluators. The person-focused evaluator believes that evaluation is a person activity (e.g. working directly with managers, participants and other stakeholders) rather than a research activity. Ideas of people related to the evaluation are sought out. The term evaluation-for-use may include Patton's Utilization-Focused Evaluation approach but it is not limited to this formulation. The research-focused evaluator is the 'expert' who emphasizes conducting a scientific study but does not actively promote use.

*Expectations**

Individuals' expectations about the purpose of a program, how it should operate, what program outcomes will be and what evaluation can do. It includes summative or formative thinking. It may be based on attitudes about evaluation, a program and persons in an organization. It may include short term expectations and/or long term expectations about a program and/or an evaluation. It is a key psychological variable that affects how people think and behave.

*External environment and context of the evaluation**

The total outside environment in which the organization exists. It includes external stakeholders (who may enter into the internal environment of the evaluation once the program is started), regulations and laws, current political ideas, the macro-culture of society and community (which, for example, increasingly stresses individualism, competition and self interests), sub-cultures (e.g. religious and/or ethnic groups), the economic system (e.g. level of technology, capitalism, competition) and human resources available to the organization.

*Individual characteristics**

Characteristics of individuals. Two contrasting types of individuals are (1) change seekers, who thrive on learning and like to try out new ideas and (2) bureaucratic individuals, who like order and may equate change with instability. May include personality characteristics as well as cognitive and behavioral characteristics (e.g. knowledge about evaluation and knowledge about and participation in program). This applies to all individuals in the system (e.g. organization members such as managers and program participants, as well as other stakeholders).

*Internal environment and context of the evaluation**

Includes the internal political environment (see Politics) and the organizational culture and structure (see organizational culture) operating as a dynamic system (see complexity theory).

*Interests and ideology**

Do the evaluation findings support values and beliefs held in the organization and is it in potential users' self-interests to use evaluation results and recommendations?

Network organization

A concept that I generated based on this research study. It can be viewed as a web or social network. It is based on the interactions and structures connecting all individual stakeholders and organizations (internal or external) that participate in or have a stake in an evaluation or program. It is a relatively emergent and fluid type of organization that appears each time an evaluation takes place. It comes about through communication and participation.

*Organizational characteristics**

Organic vs mechanistic types. An organic organization is a relatively flat organization with high levels of vertical and horizontal communication. Power is located more in ideas and performance than in position. A mechanistic organization is the traditional Weberian bureaucracy where power is located in the position and communication travels through the chain of command typically shown in organization charts (Tosi, 1992).

Organizational culture

An organizational culture is the unique set of norms (accepted and expected behavior), values, attitudes, beliefs, traditions, language, 'ways of doing things', folklore and artifacts of an organization. Individuals are socialized into organizational cultures when they enter and continuously interact during their tenure; they also reciprocally impact the culture in the process of culture making. Cultures tend to support change or support homeostasis.

*Organizational learning**

Involves adjustments on the part of the program and organization, including, for example, changes in the culture, strategy (e.g. how things are done in the organization, including how the organization 'learns') , formal and informal structures/patterns, 'important stories', 'myths' and current operating and behavioral norms. It is based on learning by individuals in an organization.

*Participation**

Degree to which people involved in or directly related to a program (e.g. organization members, stakeholders and evaluators) participate in a program and/or evaluation. It includes communication, reflection, discourse and dissemination during a program. It results in continuous process use. Formative feedback adds information to and affects the nature of participation.

*Politics**

What is the nature of the political environment in the organization or network organization? Do individuals with formal or informal power support changes suggested in formative and summative evaluations? How quickly can new practices be adopted without creating too much resistance to change? Can individuals change their practices without fear of political retribution? Will individuals' power affect how they view a program and evaluation? Will individuals' personal power increase or decrease if changes are made?

*Truth and utility tests**

Do potential users believe the evaluation results (formative or summative)? Do they view the evaluator as being credible? Is the evaluation of high quality? And is the information seen as useful in individuals' jobs? Truth and utility testing varies along a continuum with the poles labeled 'affirmative truth and utility testing' and 'negative truth and utility testing'.

Several comments are made at this point about the theoretical model shown in Fig. 19. First, the model is intended to apply to any evaluation, formative or summative, internal or external. Often, but not always, in an internal evaluation the internal environment will be composed of a single organization with an in-house evaluator. In an external evaluation the evaluator generally enters the internal environment from an organization outside of the organization where the program is being developed and evaluated. In both cases, iterations occur through the model during and after any evaluation; that is, feedback continually occurs and the status of the variables in the model change over time. The term network organization (see definition) was coined to add focus to the idea that in many evaluations, multiple stakeholder groups become involved in program development and evaluation. In essence, a social network evolves around the program and evaluation forming the network organization. It is the persons in this network that have the most to gain, learn and add to program development, refinement, and evaluation. Evaluators are situated in a nexus of internal and external influences.

Next, the theoretical model with an emphasis on present and emergent structures and process draws on Giddens' idea of structuration. That is 'social structure is used by active agents; and in so using the properties of structure, they transform or reproduce this structure' (Turner, 1986). Last, the type of theory provided in Fig. 19 is what Reynolds (1971) calls the 'causal process form' of theory. Probable causal links are proposed in a visual model rather than as a list of propositions.

It is suggested in Fig. 19 that evaluation use occurs through an open system of interrelated background, interactional and use variables operating in an internal environment situated in an external environment (defi-

nitions above). The model should not be viewed simply as a set of stagnant concepts. It is the process implied that makes up the 'model in action'. The theoretical model is based on the assumption that the utilization process needs to be viewed as a dynamic and open, complex system (see definition of complexity theory) (Bertalanffy, 1968; Coveny and Highfield, 1995; Mainzer, 1994; Schoderbek et al., 1990). Iterations (i.e. feedback) occur as individuals participate, think, act, learn and adjust to changing conditions. This is shown by the causal arrows, feedback loops and input–output points. If any factor in the system changes, other changes may occur as a result of feedback. The point is that evaluation use is not a static, linear process.

The external environment and context is the broadest dimension of the model. It is assumed that the external environment is constantly changing and is complex. The external environment affects and is reciprocally affected by the internal environment of the evaluation, as well as the explicit process variables in action (via input and output). The external environment and context set up certain constraints as well as opportunities for an organization or program by providing, for example, knowledge, a labor pool, national and local political beliefs, new organization/business/service opportunities and laws and regulations. It is contended that, in order not to overlook the external environment, an external environmental analysis needs to be done by evaluators attempting to maximize utilization of results. That is, we need to scan, study, and capitalize on the characteristics of the external environment and context of an evaluation.

The next broadest component of the model is the internal environment and context of an evaluation. Evaluators enter a particular internal environment at a particular time and place. A 'social reality' is present, but it is also emergent, holistic and situational; it is continually reconstructed and changing. This is the nature of organizational change and learning. Politics (definition above) permeates all organizations' internal environments and may result in a propensity for change (or not); this will be reflected in the organizational culture. Although politics is virtually omnipresent, the political variable was inserted into the model at two key points.

The internal environment also includes the program and organizational history and culture, in addition to the formal bureaucratic structure. If long term organization or program changes are to be expected, evaluators need to become aware of the manifold characteristics of an internal environment. Therefore, an internal environmental analysis needs to always be carried out (Wholey, 1979).

Ultimately, cultural as well as structural changes must be made if evaluation use and organizational learning are to occur, become institutionalized and last over time (Goodman and Dean, 1982). A promising structural change for facilitating lasting change is to develop a collateral organization (also called a parallel learning structure) (French and Bell, 1995; Zand, 1974). This is a relatively permanent group of individuals in an organization who become knowledgeable about a program and about program evaluation and continue to be a source for people in the organization to go to with thoughts and ideas to be shared and discussed. Members of the collateral organization continue to monitor, evaluate and facilitate program improvement and organizational learning over the long term. They also train or help others in the organization to become more knowledgeable about the conduct of evaluation, as well as organizational development and change.

The explicit process-variables form the third major component of the theoretical model. The first three variables, at the left of the model, are called background variables because they, combined with the external and internal environments of the organization, set the stage in which evaluation utilization and organizational learning occur. They are: organizational characteristics, individual characteristics and evaluator characteristics (definitions above). Note that these variables can change and modify as feedback takes place in the model.

Participation and dissemination are called the process or interactional variables because they represent the ongoing activity of people in an organization. These are social psychological variables and involve the process of social interaction (Cousins and Leithwood, 1993). The forms of participation and dissemination are directly affected by the background variables.

It is hypothesized that participation will be highest for organic organizational forms (as contrasted to mechanistic), for change-oriented 'learning' individuals (as contrasted to bureaucratic individuals) and for evaluation-for-use evaluators (as contrasted to research-focused evaluators). Participation is also affected by the utilization variables as iterations through the model take place (via feedback). For example, as part of organizational learning, changes in the culture may facilitate increased evaluation participation.

Dissemination and participation are shown to have a reciprocal relationship because dissemination (as it is operationalized here) includes informal and formal communication (in addition to formal reports) and participating and communicating feed on one another in organizational behavior (e.g. as positive communication occurs, participation increases and as participation increases, communication increases more). Dissemination is also affected by the same three background variables affecting participation and by politics. In an organic organization, informal networks are especially common and may result in a good deal of 'grapevine' and relatively open communication and dissemination, in addition to formal dissemination. While, a research-focused evaluator may view a final report as sufficient ('my job is done now'), an evaluation-for-use evaluator

will likely consider informal (in addition to formal) communications before, during and after an evaluation as important for facilitating evaluation use. Change-oriented individuals are hypothesized to become interested in an evaluation (because it may represent positive self and organizational growth and learning) and, they are therefore likely to participate and formally and informally disseminate evaluation information and results. In sum, it is hypothesized that participation and dissemination are key interactional variables in the evaluation utilization process. These variables directly affect cognitive use and are, in turn, affected by cognitive use via feedback. Participation and dissemination are constantly in motion, and they feed on each other, as well as change as iterations through the model occur.

Competing information, expectations, truth and utility testing, interest and ideology, the interactional variables (i.e. participation and dissemination) and politics are shown to have direct effects on cognitive use. (Definitions of the variables are given above.) Cognitive use is also indirectly affected by the background variables and directly and indirectly affected by behavioral use and organizational learning through feedback. Cognitive use does not stop at a particular point in time. Individuals become aware of formative and/or summative results prior to using the results behaviorally. They conduct truth and utility testing, consider if use is in line with their interests and ideology, relate what they are learning to their expectations and consider competing information while in the organization (Weiss, 1980, 1984). Cognitive use also occurs when individuals develop an 'evaluation schema'. This is a type of process use, where changes in individuals result not from any particular evaluation findings but from their participating in an evaluation and learning to think like an evaluator.

It is specifically hypothesized that cognitive use will be high when participation and dissemination are high, when there is only a small amount of competing information, when truth and utility testing are affirmative (i.e. when they see an evaluation as credible and useful), when individuals' interests and ideology are supported (i.e. when the evaluation supports values and beliefs commonly held in the organization and fits the individuals' self-interests) and when positive and realistic expectations are held about the evaluation and program.

As shown in the model, cognitive use occurs and then individuals act (i.e. behavioral use). The proposition here is that cognitive use is a prerequisite for behavioral and organizational learning. Therefore, the cognitive use factor in the model is an important node because it leads to behavioral use and organizational learning.

It is hypothesized that the type of organization affects the nature of participation ('who does what?', 'who talks to whom?' and 'who makes decisions?') resulting in different degrees and types of utilization (i.e. cognitive, behavioral, and organizational). In a tightly coupled, mechanistic organization, many potential stakeholders may not be aware of the conduct of an evaluation because they are not in the appropriate information network; therefore, they do not participate. It is the evaluators' and managers' role not to let this happen. Further, in a mechanistic structure it may not be in non-participators' interests to participate because of their lack of information, concern, power, and intense job specialization (Tosi, 1992).

Organizational learning from the program and evaluation is shown in the model to result from cognitive use, behavioral use, and politics. Organizational learning is also affected by all of the other variables in the model through feedback and the internal and external contexts of the evaluation. It is well known that organizations can change and learn over time (Fiol and Lyles, 1985; Frey, 1990), and it is hypothesized that evaluation utilization (e.g. cognitive and behavioral) will affect this process over time (Cousins and Earl, 1992). Forss et al. (1994) have recently argued that evaluations may lead to organizational learning via involvement and communication. In Fig. 19, these factors are shown to affect organizational learning indirectly through cognitive and behavioral use. Furthermore, new social constructions of reality in organizations and programs result from program evaluations and the concomitant interpersonal interactional process (Bandura, 1986; Gergen, 1985; Berger and Luckmann, 1967; Pitre and Sims, 1987). Change in knowledge structures is one form of organizational learning.

There will, however, always be some resistance to change (Couch and French, 1948; Klein, 1984; Neumann, 1989), as well as misutilization (e.g. selective or inappropriate use of findings) (Alkin, 1990; Shulha and Cousins, 1996). Nonetheless, as participation increases in a program evaluation, it is hypothesized that evaluation utilization (cognitive, behavioral and organizational learning) will occur, especially, given an open environment (i.e. in an organic organization with an open culture) where organizational members can grow and feel free to participate in the organizational change process. In fact, people often enjoy being part of the organization/program change process, and many will, therefore, join into the evaluation utilization process (Pasmore and Fagans, 1992; Neumann, 1989).

6. Conclusion

There has been a call for theory development in evaluation utilization. Therefore, a tentative meta theoretical process-model was provided in this study (Fig. 19). The hypothesized predictions that would be made from the model were discussed. Each arrow or combination of arrows in the model (i.e. direct; indirect, or feedback relationships) implies a theoretical proposition which is subject to additional empirical testing. Future research

should focus on testing propositions from the models presented in this paper and on developing superior models.

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