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ABSTRACT

To examine the impact that personal characteristics and institutional variables have on what school district consultants learn during an inservice program that addresses the specific skills required by their role, 35 consultants from Ontario, Canada who were engaged in an 8-month professional program were administered a pre- and post-interview. Questionnaires measured the following: (1) consultants' previous experience and training for the role; (2) teachers' sense of efficacy; and (3) consultants' views on how they should spend their time on such tasks as curriculum development, administrative duties, and assisting teachers. Findings indicated that personal characteristics such as beliefs in efficacy predicted consultant learning and suggested that a motivational factor was at work that encouraged participants who aspired to broader influence in their districts. There was less evidence in support of the impact of institutional variables, largely because of the lack of variability between districts included in the study. Six tables and two figures are provided to help illustrate data analysis. (33 references) (EJS)

ANTECEDENT CONDITIONS AFFECTING LEARNING IN AN IN-SERVICE PROGRAM FOR CONSULTANTS

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Abstract

Efforts to improve the effectiveness of consultants include the provision of in-service programs addressing the specific skills required by the role. Little research has been conducted on the characteristics of persons and organizations associated with consultant learning in such programs. The article presents a model for examining who benefits from in-service and tests its adequacy using data produced by 35 consultants engaged in an eight month professional development program. The study found that personal characteristics (demographics, beliefs about efficacy and importance attached to consultant activities) predicted consultant learning. Greatest gains were obtained by those who were relatively inexperienced as consultants, who were confident about their own ability to bring about change in students and who attached more importance to the administrative aspects of consultancy. These findings suggested that a motivational factor was at work that encouraged in-service participants who aspired to broader influence in the school district. There was less evidence in support of the impact of institutional factors, largely because of the lack of variability between districts included in the study sample.

ANTECEDENT CONDITIONS AFFECTING LEARNING IN AN IN-SERVICE PROGRAM FOR CONSULTANTS

District level consultants are expected to support educational innovation and improve teacher practice. Although there is some evidence (reviewed in Authors, 1990a) that they do have these effects, support for consultants is dwindling in many jurisdictions, partly due to budget pressures and partly due to increased confidence in the ability of building administrators to provide curriculum leadership. The result is a reduction in the number of consultant positions and a shortening of terms. Yet paradoxically demands on the role and accountability for outcomes are increasing. In order to make the most of these dwindling resources at a time of escalating demand, a number of role improvement efforts have been launched, such as upgrading procedures for selecting candidates, providing better supervision and clarifying role descriptions. Many districts are also beginning to design preservice and in-service activities for consultants, programs comparable to the sessions provided for principals and principal candidates. But who benefits from this district level in-service? Is it possible to identify in advance the consultants who are most likely to take advantage of the learning opportunities provided by these expensive programs? And which boards will find in-service to be a productive mechanism for the enhancement of consultant effectiveness? The research reported here provides some answers to these questions using data collected in a 1989-90 study of a professional development program for consultants focused on specific consulting strategies.

No previous study has assessed the influence of antecedent variables on consultant learning. The simplified model in Figure 1 proposes that learning in an in-service, operationalized as improvements in the strategies consultants use to help teachers and other agents respond to system priorities, will be a function of their entry level strategies, personal variables and characteristics of the institutions in which they work. Previous research provides evidence of linkages between elements of the model, particularly with respect to entry performance.

Figure 1 About Here

Relationships between personal demographic variables and consultant behaviour have been examined in a few studies. Hazai (1979) found that the prior teaching experience of consultants was related to the strategies they used: for example, consultants with greater teaching experience provided fewer programs in helping teachers and this reduction enhanced program implementation. Authors (1990a) found that more experienced consultants consistently differed from inexperienced consultants in their selection of executive strategies. These findings suggest that demographic variables are likely to have an impact on entry behaviour such that consultants with greater teaching and consulting experience are more likely to bring advanced skills to the in-service. Other demographic variables--previous role assignment, areas of consulting responsibility, prior training for the role, to name just a few--could also have an impact, but the strength and direction of the effects cannot be predicted in the the absence of prior research.

Consultant attitudes are also likely to be salient. In a review of the external change agent literature, Louis (1981) found that the extent to which consultant and consultees shared beliefs and attitudes influenced consultant activities. Louis & Kell (1981), in a study of seven dissemination projects, found that a psychological characteristic ("innovativeness") affected strategy choice (dramatic versus incremental approaches to planned change). There is also evidence that when teachers act as consultants to one another in, for example, formal and informal coaching programs, their beliefs about the efficacy of education and the efficacy of themselves as educators interact in complex ways with both coaching strategies and consequent impact on teachers (Poole & Okeafor, 1989; Poole, Okeafor & Sloan, 1989).

The model in Figure 1 proposes that three types of attitudes and beliefs are likely to make a difference to entry performance. None of these have been investigated in the context of consultant behaviour. The first is teacher efficacy. Previous researchers have found that teacher efficacy predicts such indicators of teacher performance as attitudes toward innovative instruction (Guskey, 1988), staff collaboration (Miskel, McDonald & Bloom, 1983; Authors, 1991b), commitment to teaching (Evans & Tribble, 1986; Glickman & Tamashiro, 1982) and

willingness to implement new programs (McLaughlin & Marsh, 1978; Smylie, 1988; Stein & Wang, 1988). Although none of the teacher efficacy research has focused on consultant samples, it is reasonable to anticipate that their beliefs about the efficacy of education will influence entry behaviour such that those with higher efficacy beliefs will be more skillful. Second, individual conceptions of the role, particularly the relative importance assigned by the consultant to the tasks he or she is asked to perform, are also likely to have an impact. For example, consultants who believe it is important to help teachers in a school coordinate their instructional programs within a division are more likely to acquire and consolidate procedures for school improvement than those who feel it is important to "just listen" to teachers personal problems without attempting to solve them. The model predicts that those who have a conception of the role which is closer to the image of the consultant as a change agent, rather than peer counsellor, will be performing at higher levels on entry to the in-service program. Third, it is anticipated that consultants who perceive that their actions are in conflict with their beliefs will perform lower on entry since there is evidence that role conflict results in reduced satisfaction, declining productivity and burnout (Blase, 1982; Kottkamp & Mansfield, 1985; Rizzo, House & Lirtzman, 1970; Schwab & Iawanicki, 1982).

Board characteristics have an effect on what consultants bring to an in-service program. Bancher, Eiseman, Cox & Schmidt (1982) found that the size of the school district had an impact on the strategies that consultants use and Miles, Saxl & Lieberman (1988) attributed observed differences in change agent skills to undescribed school district characteristics. These studies suggest that district demographics, especially size, will influence the strategies consultants use.

Some researchers (e.g., Fullan, 1981; Fullan, Anderson & Newton, 1986; Jones & Leithwood, 1989; McTaggart, 1989) have provided evidence that consultant effectiveness is dependent upon the emergence of an enabling institutional context. Similarly, Authors (1990a) concluded that the tactics of consultants were affected in part by the settings in which they worked: the most advanced strategies required a level of curriculum sophistication and degree of institutional coupling that is infrequently encountered. McLaughlin & Marsh (1978) and Sharman (1987) found that school change was most likely to occur when there was a

combination of pressure, represented by middle and senior administrative action, and support, provided by internal and external consultants. Institutionalization of meaningful change takes such enormous teacher effort that it will not occur unless a critical mass of resources is focused on the task and the resources are distributed throughout the process of learning the innovation (Fullan, in press; McLaughlin, 1975). The specific characteristics that enable consultants to fulfil their mandates have not been well defined in past research and it is entirely possible that there may be many different configurations that lead to effectiveness. It is likely that consultant performance on entry to the in-service will be influenced by the work setting, particularly the extent to which the institutional context provides clarity, support, coordination and constructive feedback for the consultant's efforts.

Finally, what consultants actually do in their jobs is likely to impact on their entry behaviour. Performance expectations, represented by job descriptions and less formal indicators, play a large part in determining which activities consultants attend to. However, time allocation decisions are likely to be the outcome of an implicit negotiation between consultants and their consultees, peers and supervisors.

It is reasonable to anticipate that the same set of personal characteristics and institutional variables will have an impact on what consultants learn during an in-service, although we are aware of no study which has examined these linkages.

The utility of the model presented in Figure 1 in predicting who would benefit from in-service was explored in a study of a regional professional development program for consultants. The specific research questions were:

1. Did entry behaviour predict improved performance?

2. To what extent was entry behaviour influenced by personal and institutional variables?

3. To what extent was improved performance predicted by personal and institutional characteristics.

Sample

The program was delivered to 35 volunteers; 10 boards in eastern Ontario each sent 2 to 4 consultants. All were volunteers who were viewed as competent by their supervisors. The boards ranged from 6 800 to 52 600 students in size.

The sample was relatively young: most were aged 36-40 and only four were over 50. Two-thirds were female and half had interrupted their careers, in most cases for family reasons. Most had not been in their current placement very long: only three had more than three years experience in their existing position and almost half had none. When previous consulting experience was added to current tenure, the mean was 2.66 years as a consultant. There was, however, large variation in experience: the standard deviation was 4.94. Only two had consultancy experience outside their current board. A majority had responsibility for helping both elementary and secondary teachers; the remainder worked solely in the elementary panel, with more in the primary than in the other divisions. Most were very experienced teachers (17 years on average); 5 had served as principal or vice-principal prior to becoming a consultant. Most had served on various district curriculum committees although 20% had not.

Formal qualifications were biased toward professional rather than academic training. Virtually all had obtained at least one subject specialist certificate and most reported additional practical qualifications. There were five who had not finished an undergraduate degree and only three had acquired a master's. One had completed a doctorate.

Also included in the sample were ten superintendents, one from each district, who had the greatest responsibility for consultant supervision.

Treatment

There were seven in-service sessions, involving a total of five full days, delivered over an eight month period. After an initial role clarification and individual goal setting activity, participants worked in small board teams on a series of case studies. Each case study represented a problem frequently encountered by consultants and illustrated a relatively ineffective procedure for dealing with it. Each team diagnosed the strategy implicit in the case

description and appraised its probable impact on teacher practice. Contrasting strategies were presented in the form of qualitative data from an expert-novice study of experienced and inexperienced consultants (Authors, 1990a). Participants used the information to analyze their own behaviour and to design a specific action plan in which they would attempt to change their current approach toward a self-defined ideal. The specific change to be attempted in the context of an upcoming consultation of their own choice focused on the particular dimensions of consulting addressed in the case study. Teams were encouraged to give advice and feedback to each of their members and to draw individual plans into a coordinated group experiment. Action plans were implemented in the home boards between in-service sessions. At the follow-up meeting each team reported the outcomes of the implementation and discussed ways to internalize changes in operating procedure that were perceived to be beneficial. The cycle was then repeated with a new set of case studies addressing a new set of consulting dimensions. Materials and procedures used in the in-service are contained in Authors (1990b).

Instruments

Level of consultant strategies, the study's dependent variable, was measured with a 45-60 minute interview administered at the beginning and end of the in-service. Subjects were asked to describe two of their recent consultations, one in which they were working with individuals and the other with groups. Subsequent questions probed the specific strategies that consultants used. Interviews were audio-taped and the strategies were classified in terms of the eleven dimensions of the Consultant Profile shown in Figure 2. Each tape was independently coded by two trained coders and disagreements (10% of all codes) were resolved through discussion. At the end of the study a confidential report was sent to each participant describing the in-service team's perception of the extent to which the individual's consulting strategies had changed over the program. Specific evidence for these perceptions was provided in the form of excerpts from the pre and post interviews. Subjects were invited to add missing data and/or correct interpretations of these data; no additional feedback was received. The consultant profile on which interview scores were based was developed in an expert-novice study of consultants (Authors, 1990a) and the definitions of the levels were elaborated (and supported) by findings from the planned change literature reviewed in Authors (1990b). Previous

administrations of the interview guide have produced relatively low scores. Authors (1991a) found that the mean profile score across all dimensions was level 2 for a sample of 36 consultants; mean dimension scores (and their standard deviations) ranged from 1.39 (.63) to 2.69 (.42). In the present study, individual item scores (except for dimension 8 for which there was a great deal of missing data) were totalled to provide a total score with a potential range of 4-40.

Figure 2 About Here

Several instruments administered at the beginning of the in-service provided data on personal characteristics. (a) A self-administered questionnaire containing multiple choice and open ended items probed consultants' previous experience and training for the role. (b) Subjects' sense of efficacy was measured with a 16 item self-report measure designed for teachers by Gibson & Dembo (1984). A six-point agree/disagree scale was used to respond to statements such as: "The amount that a student can learn is primarily related to family background." Two subscale scores (personal teaching efficacy and general teaching efficacy) were produced. The coding on six of the items was inverted to ensure that high scores on both scales meant high efficacy. Since this instrument has been extensively used in recent research and because the items are sufficiently general to apply to educators in nonteaching roles the items were not revised when administered to consultants. (c) Consultant perceptions about how they should spend their time were measured with the *Consultant Time Use Survey*, a self-administered questionnaire adapted from Authors (1978). Subjects were asked to rate 29 consultant activities using a four-point scale. The items were grouped into six a priori categories: curriculum development tasks (e.g., developing district curriculum guideline), administrative responsibilities (e.g., meeting with textbook companies), organizing group professional development (e.g., planning workshops), giving high level help to teachers (e.g., helping a school plan its program), giving low level help (e.g., delivering materials requested by teachers) and other activities (e.g., diagnostic testing of children). The Time Use Survey produced two sets of personal variables: ratings of activity importance and discrepancies between preferred and actual time use. It also produce a set of institutional indicators to be described below.

The extent to which each board provided an enabling institutional context was measured with a self-administered questionnaire completed by consultants at the beginning of the study. Subjects used a six-point agree/disagree scale to rate 30 statements adapted to the consultant context from items developed by Rosenholtz for teachers. Rosenholtz (1989) and Hawley & Rosenholtz (1984) found that scales built from these items were highly correlated; they described productive working environments and they predicted productivity and satisfaction. The items were grouped a priori into nine categories reported by Rosenholtz (1989). These indicated the extent to which the district evoked commitment, positive task autonomy, peer collaboration, explicit goals and shared objectives, as well as providing clear evaluation, goal setting procedures, socialization of newcomers, on-the-job learning opportunities and positive feedback. In the present study, items that failed to correlate positively with the sum of the remaining items from the a priori scales were removed. This data bank was supplemented with information about how consultants currently allocate their time, using the categories of activities from the Consultant Time Use Survey. Data on actual time use (a four point rating scale) was treated as an institutional variable reflecting the expectations of the work environment.

Another view of the institutional context was provided by curriculum superintendents in each board who completed a self-administered questionnaire and were interviewed for 30-45 minutes at the end of the study. These instruments focused on the interactions between consultants and their supervisors, identified administrative expectations regarding consultants' time allocations, ideal consultant behaviours and other issues that arose from researcher observations during the in-service sessions.

Information was also collected during the implementation of the in-service. This information, which will not be reported in this article, consisted of records of action plans created by consultants at the in-service session, written reports on the results of implementing their plans, additional materials (e.g., workshop outlines, memos, etc.) generated in response to the in-service and miscellaneous documents such as job descriptions, directions from administrators, etc. In addition, field notes were produced by researchers during the sessions

and audio-tapes were made of deliberations between consultants when completing the action planning and feedback tasks.

Analysis

All data were coded, entered and analyzed using SPSSpc. Descriptive statistics were produced and a correlation matrix was constructed for all the variables in the study. The cumulative effect of missing data so reduced the number of complete data sets that there were too few cases to use causal modelling techniques such as LISREL to test the model in Figure 1. Consequently the elements of the model were tested separately. First the link between entry and exit behaviour was tested by regressing post interview scores on pre interview scores. The effect of entry scores on learning through the in-service was tested using and excluded middle strategy: the achievement residuals of those in the lowest third (in terms of pretest performance) were compared to the residuals of those in the highest third using a one-way analysis of variance. Then multiple regression procedures were used to test the predictive power of the personal and institutional variables on entry performance and on consultant learning through the in-service (operationalized as the standardized residuals from the regression of post on pre interview scores). These findings were supplemented with reference to the superintendent questionaire and interview data. In this analysis the profile scores of consultants were aggregated to the district level.

Results

Link between entry and exit performance. Mean scores on the achievement measure increased significantly from pretest (20.91) to posttest (24.97); the standard deviations were 3.56 and 4.77 respectively. The average consultant in this treatment outperformed 87% of the consultants' in a nonequivalent control group and 83% of the consultants enrolled in a prototype version of the in-service program delivered in 1988-89. A detailed account of the achievement results is given in Authors (1991a). For the purposes of investigating the model in Figure 1, the relevant finding is that pretest performance influenced posttest scores [t=5.36, df=26, p<.001]; 18% of the posttest variance was explained by the pretest. Those who were functioning at higher levels of the Consultant Profile continued to outscore others at the end of the in-service.

However, entry performance did not predict the amount learned. When the achievement residuals of those who scored in the upper third of the pretest were compared to those in the lowest third, there was no significant difference.

Link between antecedent variables and learning. Tables 1 and 2 summarize the main personal and institutional variables included in the study, except for the demographics described in the sample section. Most of the scales were of adequate reliability given the sample size and small number of items in each scale, although some estimates were conspicuously low (e.g., importance of "group PD" in Table 1, actual time spent on "other" activities in Table 2).

Tables 1 & 2 About Here

Table 3 shows the variables that correlated significantly with the achievement residuals resulting from regressing post interview scores on pretest performance. Given the small sample size, the alpha level was set at $p<.10$.

Table 3 About Here

In terms of personal characteristics, the only demographic variable to be associated with achievement was total experience as a consultant; less experienced consultants learned slightly more. It was easier for inexperienced consultants to adopt the higher level strategies described in the qualitative research data because in most cases they had not developed routine operating procedures. The learning task for experienced consultants was more difficult because they had to disrupt an existing mode of operation negotiated with their constituencies in order to accommodate the new strategies.

Personal teaching efficacy positively influenced learning: consultants with greater confidence in their ability to bring about beneficial change in students were more successful in learning how to help teachers. Those with low efficacy scores may have been less motivated by

the in-service, believing that it had little to offer them since they were pessimistic about their ability to influence others.

Two of the variables concerned with the importance of consultant tasks were related to achievement. Consultants who assigned greater importance to administrative activities (such as representing the district to outsiders) and to curriculum development tasks (for example, preparing secondary support documents from government guidelines) were more likely to be high achievers. Each of these items involve district level as opposed to classroom influence. In this sense the correlations might indicate a relationship between in-service learning and consultants' aspirations.

None of the variables indicating discrepancies between desired and actual time use were correlated significantly with achievement.

Some of the organizational factors were related to achievement. None of the district demographic factors made a difference, except board affiliation. A one-way analysis of variance indicated that the board to which the consultant belonged had a weak effect on how much was learned [$F(9,17) = 2.25$, $p<.071$]. Extent of learning opportunities was the only one of the consultant perceptions of the work environment variables to influence achievement and it did so modestly. Not surprisingly, consultants employed by boards which encouraged new ideas and stimulated on-the-job learning were more likely to be successful in an in-service program that emphasized trying out new ideas in daily practice. The actual time allocations of consultants also made a difference: Consultants who spent more time giving teachers professional development, or developing curriculum materials for them, learned more in the in-service.

In order to estimate the unique impact on achievement of the predictor variables, those correlated with the achievement residuals at $p<.10$ were entered into a step-wise multiple regression equation in which order of entry was determined by size of the correlation. Table 4 shows the results based on 19 complete data sets. The only variables to enter the equation were personal characteristics. The greatest benefit from the in-service was obtained by consultants who believed that spending time on administrative issues was important, who had less consulting

experience and who had greater confidence in their own efficacy. The regression equation explained 56% of the variance in achievement.

Table 4 About Here

The lack of impact of the institutional variables is surprising given findings of effects in previous studies. The most likely explanation is the restricted sample included in this study. Constraints imposed by the in-service design (i.e., that consultants should work in board teams and that the total number of participants not exceed the number who could be given individual attention by those delivering the in-service) meant that only ten boards were involved.

Responses to the superintendent interviews and questionnaires indicated that there was not much variation between these districts, perhaps because they came from the same geographical area and operated within the same centralized curriculum structure imposed by the province. For example, most superintendents said that the work of consultants was facilitated by the adoption of a board philosophy of education and most indicated they had such a philosophy in place. They believed that consultants were most effective when they had been in the role for three years or more. They all supported the idea of their staff returning to a consultant position after taking another job in the system. They saw consultancy more as preparation for positions of added responsibility than as training to be a better classroom teacher. Virtually all superintendents expressed strong support for a team approach to consulting. Almost all superintendents used change agent images to describe the consultant's role in relating to teachers; only two relied exclusively on teacher helper images. When asked about teacher evaluation, all agreed that consultants do not participate in summative decisions but had a role in formative appraisal.

In addition, these boards were highly supportive of their consultants. All superintendents were able to describe a situation in which a consultant made a particularly worthwhile contribution to the accomplishment of board goals; all but one of these situations involved teacher change in a high priority board project. More generally, superintendents described various ways in which consultants helped the board fulfil its mandate such as

disseminating ideas within the system, defending the policies and practices of the board to outsiders, explaining board or Ministry policy to teachers, acting as a role model for teachers and developing curriculum documents. In addition, the superintendents' ratings of the importance of various consultant activities were virtually identical to the ratings given by their consultants.

Despite the lack of variation between boards there were some interesting correlations between district variables and consultant learning that became visible when individual consultant profile scores were aggregated to the district. These correlations should be viewed with great caution since there were only ten districts in the study. Consultants who worked in boards in which superintendent meetings with individual consultants focused on curriculum issues were more likely to be successful (r = .67). Boards which encouraged movement between consultancy and other school system positions also had a greater proportion of high achievers (r = 66), perhaps because consultants believed that learning how to be a better consultant would be useful in subsequent roles as well as in current responsibilities. The length of consultants' terms of office was negatively related to achievement (r = -.51). High achievers were more likely to be found in boards in which superintendents preferred short terms for consultants, perhaps because these boards selected self-reliant staff who could take responsibility for their own learning or because these consultants knew that they had to reach effectivenss in a hurry. Consultants working in boards in which superintendents expected them to work with individual teachers underperformed in comparison to the rest of the sample (r = -.55); when the expected consultees were groups of teachers and administrators in adjacent schools consultant achievement was higher (r = .67). In addition, consultants learned more if their superintendent indicated that the ideal consultant should spend time on administrative activities such as representing the school system to parents (r = .63). These items suggest that expecting consultants to have system-wide as opposed to a local influence might stimulate consultant growth. Consultants who worked in environments that expected a team approach learned more in the in-service than those who were expected to work alone (r = .49). Conversely when consultants were expected to impose board priorities on teachers the effect was negative (r = -.50); consultants who worked for organizations that gave less attention to teachers' expressed needs learned less. These correlations suggest that the institutional setting may be more important than the regression

equation indicates. Each of the correlations is loosely congruent with the enabling context findings reported in previous research.

Links between antecedent variables and entry performance. Table 5 lists the variables that significantly correlated with entry performance. The alpha level was again set at $p<.10$.

Table 5 About Here

For the personal variables, none of the demographic variables influenced entry performance except grades taught prior to becoming a consultant [F(4,20) = 3.33]. The Newman-Keuls comparisons showed that former primary teachers outperformed all other groups on entry. (Our previous research, unlike the present study, found that more experienced consultants outscored the less experienced, but in the previous investigation, an expert-novice study, supervisor reports were used to select exemplary role incumbents for the high experience sample.) Neither of the teacher efficacy scales and none of the importance ratings given to consultant activities made a difference. Consultants with high discrepancy scores, that is, those dissatisfied with their existing time allocation decisions, were likely to score lower on the pretest.

Entry performance was associated with characteristics of the institutional setting, but none of the board demographic variables made a difference. Consultants who perceived their board as supportive of individual consultant autonomy tended to score higher on the pretest. Conversely, clarity in standards for evaluating consultants was negatively related to performance on entry to the in-service program, possibly because consultants working in such environments had to figure things out for themselves and doing so stimulated reflection on practice. Consultants who spent a higher proportion of their time delivering professional development to groups scored higher on the pretest interview.

In order to estimate the unique impact on entry performance of the predictor variables, those correlated with entry scores at $p<.10$ were entered into a step-wise multiple regression equation in which order of entry was determined by the size of the correlation with entry

scores. Table 6 shows the results based on 23 complete data sets. The only significant predictor of entry performance was an institutional variable, the amount of time consultants actually spent delivering professional development to groups of teachers, which accounted for only 17% of the variance in pretest scores.

Table 6 About Here

The superintendent data added little to the findings. Consultants who worked in boards in which superintendents preferred a shorter term appointment scored higher on the pretest [$F(1,8) = 4.65$, $p<.063$], possibly because these boards selected individuals who were able to make an immediate impact on teachers rather than those who might develop on the job. There was a slight trend suggesting that consultants working in boards in which consultants reported directly to one or two superintendents were more capable on entry to the in-service than consultants working in boards in which consultants reported to a group of superintendents or who reported to a coordinator [$F(1,8)= 7.78$, $p<.024$]. These findings suggest that organizational factors (term of office and supervisory arrangements) may affect the ability of boards to recruit the most capable individuals to the consultancy.

Discussion

The study found partial support for the model of in-service learning in Figure 1.

(a) Entry level strategies significantly predicted post performance but were not related to the amount learned in the in-service.

(b) Personal characteristics were influential. Demographics, efficacy, and perceived importance of consultant activities (but not discrepancies between desired and actual time allocations) each influenced learning in the in-service. The findings suggest that motivation was the critical determinant of how much was learned. The successful participants viewed the administrative aspects of the job as being particularly important, recognizing that in these districts superintendents saw the consultancy as a stepping stone to positions of added responsibility. These consultants were also confident about their own ability to bring about

change. Their high personal teaching efficacy scores showed that they believed themselves to be successful teachers; having demonstrated that they were effective in their own classrooms they felt ready to demonstrate their effectiveness in the classrooms of others. But the most successful candidates were less experienced than the rest of the group. Since they were relatively new to the role the strategies recommended in the in-service did not displace existing routines. And because they were new they were optimistic. They had not experienced the frustrations of trying to change schools and had yet to see that implementation, however arduous, is considerably easier than institutionalization. It takes time to recognize that much of what consultants attempt to do is never seriously attempted by teachers and a good deal of what is sincerely tried proves to be incompatible with existing routines or is superceded by subsequent innovations. The in-service program offered these consultants specific job-related training that would help them meet their personal goals.

What was surprising was the finding that personal variables had little power to predict entry behaviour. The failure of this study to find links between personal characteristics and entry performance similar to those reported by other researchers may be related to the narrow range of consultant competencies that was measured. This study focused on a small set of executive strategies (represented in Figure 2) and did not specifically address such important domains as knowledge of the policy environment, subject content, interpersonal skills, pedagogical knowledge, and curriculum process skills.

(c) There was much less evidence for the effect of institutional characteristics. None of the predicted variables influenced learning and only actual time use affected entry behaviour. However, there were suggestions in the superintendent data, which could not be pursued due to the nature of the district sample, indicating that characteristics of consultants' work settings might have a substantial effect on their entry performance and their in-service learning. Some of the correlations between organizational characteristics and learning in the in-service supported the findings about the role of motivation in predicting achievement. Consultants working in districts which encouraged consultants to think of the consultancy as preparation for positions of added responsibility learned more. Achievement was higher if the board encouraged movement between consultancy and other school system positions, if consultants

stayed in the role for a relatively short time and if the superintendent thought consultants should spend more time on administrative aspects of the job.

The failure of the study to find evidence of the effect of an enabling institutional context is largely attributable to the limited number of districts that were included in the sample and the lack of variability between them--all of these districts made a serious attempt to support the work of their consultants and to coordinate their activities with the efforts of other system agents. Another explanation comes from the instruments that were used. The major source of information on the work environment of consultants came from questionnaire items adapted from Rosenholtz (1989). These items were originally designed for use by teachers not consultants and their predictive validity was established by contrasting schools with extreme values; (74 teachers were selected from an initial population of 1 213 cases). In the present investigation these items were less sensitive and it may be that their usefulness is limited to the teacher context for which they were developed or at least to conditions more heterogeneous than existed in this study.

Further research might take several directions. The present study produced sufficient evidence to warrant further testing of the in-service model in Figure 1. Such testing might begin by focusing on the institutional variables, using a design that maximizes variability between districts. It might also be tested using data produced in less intensive in-service programs, which would permit large samples and consequently more powerful data analysis procedures. The model might also be extended in several directions. For example, our current research agenda gives priority to examining the effect on learning of interactional processes within the in-service sessions. Are there patterns of small group deliberation that enhance the learning of consultants? Our preliminary data suggest there are. An equally fruitful direction for elaborating the model concerns the highly controversial issue of goal setting. The in-service program from which this study's data were derived had a pre-established set of goals and objectives. Although participants set their own levels of aspiration there was little opportunity to influence the dimensions around which the sessions were structured. Future research might examine the impact on learning of alternate mechanisms for negotiating among the needs identified by various program stakeholders.

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TABLE 1

Summary of Personal Variables

	n		Scale Scores		
Variable	Items	Subjects	Mean	Standard Deviation	Alpha Reliability
Efficacy					
.personal	9	31	41.79	4.92	.71
.teaching	7	31	29.81	4.90	.63
Importance of Consultant Activities					
.curriculum development	4	31	12.48	2.00	.61
.administrative	4	32	9.97	2.25	.54
.group PD	3	30	10.50	1.17	.26
.high help	7	29	25.48	3.37	.68
.low help	4	32	14.56	2.31	.59
.other	7	32	13.16	2.40	.62
Discrepancies Between Desired & Actual Time Allocation					
.curriculum development	4	26	1.85	2.56	.73
.administrative	4	31	2.58	2.09	.56
.group PD	3	30	.87	1.61	.76
.high help	7	27	5.19	3.45	.64
.low help	4	31	1.32	1.70	.36
.other	4	32	2.22	1.88	.35

TABLE 2

Summary of Institutional Variables

	n		Scale Scores		
Variable	Items	Respondents	Mean	Standard Deviation	Alpha Reliability
Enabling Institutional Context					
.commitment	2	34	9.41	1.54	.68
.task autonomy	3	33	13.70	2.94	.56
.shared goals	4	34	20.41	2.98	.85
.goal setting	2	33	8.70	2.11	.50
.collaboration	2	34	15.97	2.05	.41
.evaluation	5	34	6.68	3.00	.95
.socialization	3	34	6.68	2.61	.71
.learning opportunities	2	33	15.36	2.36	.63
.positive feedback	3	30	14.63	1.85	.68
Actual Time Allocation					
.curriculum development	4	27	10.15	2.74	.74
.administrative	4	31	7.39	2.33	.66
.group PD	3	31	9.48	1.91	.67
.high help	7	27	20.22	4.16	.68
.low help	4	31	13.29	2.19	.53
.other	7	33	10.97	1.61	.24

TABLE 3

Significant Zero-Order Correlates of Achievement

Source	Variable	Correlation with Achievement Residuals: I	II
Personal Variables			
.Demographics	.consultant experience	-.27*	27
.Efficacy	.personal teaching efficacy	.33**	25
.Importance of Consultant Activities	.administration	.37**	27
	.curriculum development	.33*	27
.Discrepancies Between Desired & Actual Time Allocations	.none	--	--
Institutional Setting Variables			
.Demographics	.none	--	--
.Consultant Perceptions of Work Environment	.learning opportunities	.26*	26
.Actual Time Use	.curriculum development	.47**	23
	.group PD	.36**	25

*p<.10. **p<.05.

TABLE 4

Summary of Step-Wise Multiple Regression of Achievement Residuals on Significant Zero-Order Predictors

Step	Variable	Multiple R	R Square	Adjusted R Square	T
1	administration, importance	.50	.25	.20	3.20**
2	total consulting experience	.67	.45	.38	-2.19**
3	personal teaching efficacy	.75	.56	.47	1.89*

Variables not in the Equation	Beta	T
group PD, actual	-.07	-.73
curriculum development, importance	.04	.20
learning opportunities	-.06	-.25
curriculum development, actual	.21	1.16

*$p<.10$. **$p<.05$.

TABLE 5

Significant Zero-Order Correlates of Entry Performance

Source	Variable	Correlation with Pretest Residuals I	n
Personal Variables			
.Demographics	.none	--	--
.Efficacy	.none	--	--
.Importance of Consultant Activities	.none	--	--
.Discrepancies Between Desired & Actual Time Allocations	.low help	-.37**	27
	.group PD	-.36**	25
Institutional Setting Variables			
.Demographics	.none	--	--
.Consultant Perceptions of Work Environment	.task autonomy	.32*	27
	.evaluation	-.33**	28
.Actual Time Use	.group PD	.41**	26

*p<.10. **p<.05.

TABLE 6

Summary of Step-Wise Multiple Regression of Achievement Residuals on Significant Zero-Order Predictors

Step	Variable	Multiple R	R Square	Adjusted R Square	T
1	group PD, actual	.42	.17	.13	2.09**
Variables not in the Equation		**Beta**		**T**	
evaluation		-.20		-.98	
group PD, discrepancy		.05		.14	
low help, discrepancy		.18		.84	
task autonomy		.29		1.52	

**$p<.05$.

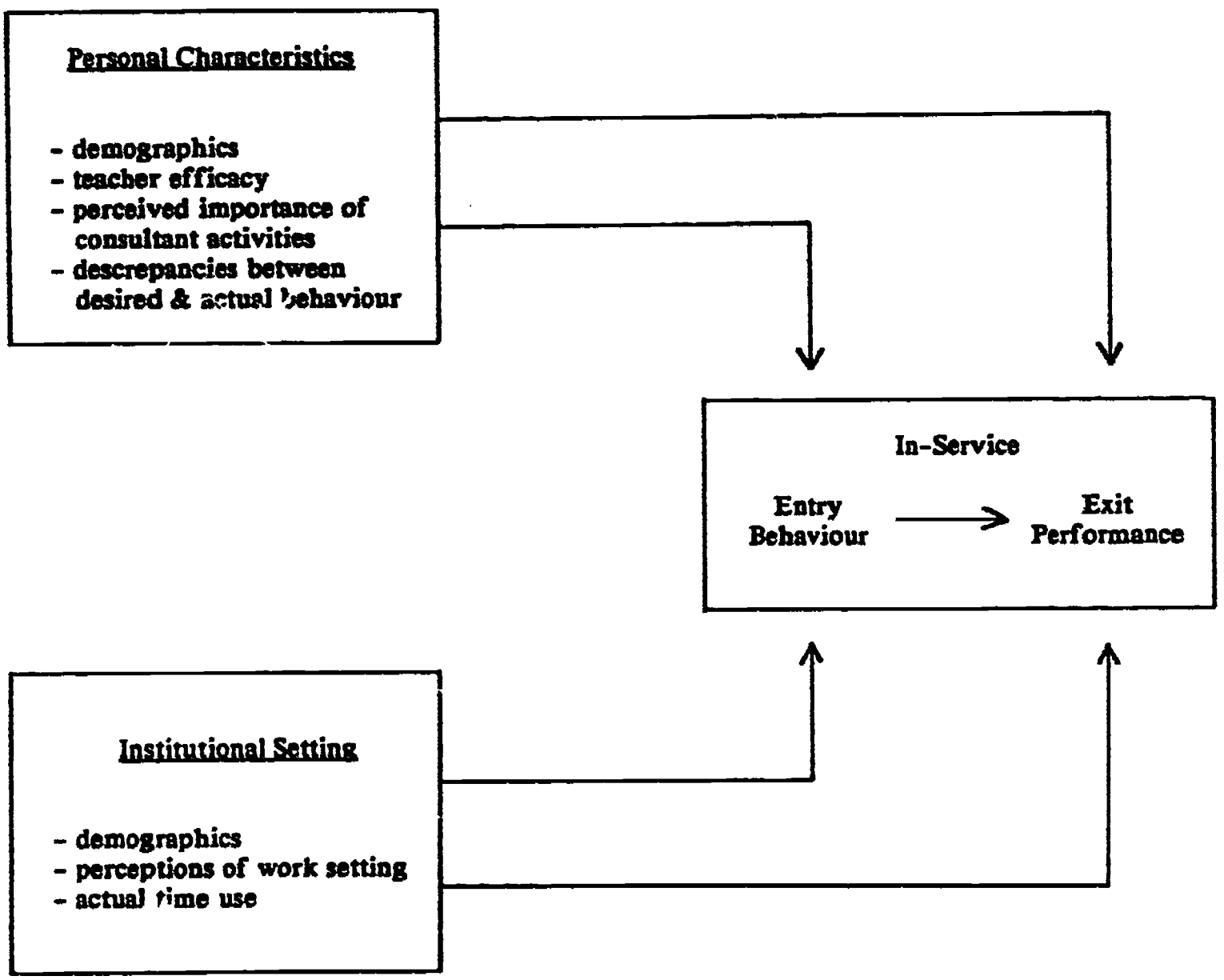

Figure 1: Model of in-service learning.

FIGURE 2

Consultant Development Profile

DIMENSION	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
BEFORE CONSULTATION BEGINS				
1. Identifying the Recipients of Consultation	individual teacher	teacher in context of other teachers	teachers and administrative team in the school	teachers and administrators in adjacent schools
2. Recruiting the Consultation Team	consultant works alone	consultant teams with one other agent (e.g., another consultant)	consultant teams with two other agents (e.g., consultants and and expert teachers	consultant teams with three other agents (e.g., expert teachers, school administrators & other consultants)
PLANNING ACTIVITIES TO MEET NEEDS				
3. Determining the Needs to be Met	imposition of consultant's personal agenda	imposition of system priorities	(a) response to expressed needs of teachers based on limited data (b) response to expressed needs of teachers identified systematic data search	negotiation of expressed needs and system priorities
4. Individualizing Within the Consultation	treat all teachers the same	plan extra follow-up for enthusiastic teachers	provide options for all teachers to select from	assign each teacher to most appropriate option
5. Providing Practice Within Consultation Sessions	no planned practice	teachers discuss teaching	(a) teachers experience activities as students (b) teachers simulate teaching (e.g., each other or plan units)	teachers teach children

References to the "teacher" in the profile should be read as the "consultee".

DIMENSION	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
PLANNING ACTIVITIES TO MEET NEEDS [continued]				
6. Providing Practice Between Consultation Sessions	no planned practice	practice with no planned feedback	practice with feedback	provide support that enables teachers to design self-directed practice and self-appraisal
7. Using In-School Expertise	no planned teacher sharing	sharing encouraged but not scheduled	planned sharing by expert teachers to spread ideas to others	planning sharing by all teachers to consolidate new ideas
EVALUATION AND FOLLOW UP				
8. Response to Teacher Feedback During Delivery	ignores feedback	expands or contracts treatment of objective	shows how consultation meets teacher needs	shifts to a different system objective that better meets teacher needs
9. Identifying Types of Data to Assess Consultation	perceived satisfaction of the teacher	perceived usefulness to the teacher	objective indicators of teacher change	objective indicators of student change
10. Using Evaluation Data	no use	planning subsequent sessions with the same teacher	planning subsequent sessions with similar teachers	refinement of consultation strategies
11. Reflecting Within the Role	no reflection	reflection on incidents	reflection on specific instances within a framework	systematic experimentation to develop new strategies