DOCUMENT RESUME

ED 264 642 EA 018 046

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TITLE Factors Affecting Principals' Leadership as Facilitators of Curriculum Change: A Multivariate Approach.
PUB DATE 85
NOTE 32p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, March 31-April 4, 1985).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Administrator Role; Change Agents; Curriculum Development; Educational Change; Faculty Development; Foreign Countries; *Leadership Styles; Models; Multiple Regression Analysis; *Predictor Variables; *Principals
IDENTIFIERS Israel

ABSTRACT

Sixty-nine Israeli school principals completed questionnaires designed to reveal the factors contributing to the leadership styles they used when initiating curricular changes. The principals fell into three leadership categories: "Initiators," who seek change in accordance with long range policies and goals; "Responders," who focus on traditional administrative tasks and immediate needs; and "Managers," who support innovation in response to external pressures. The principals' goals for staff development as an aspect of curriculum improvement varied according to their leadership styles: Responders emphasized cognitive goals, Initiators did not value cognitive goals, and Managers focused on evaluative goals. Background factors affecting leadership styles included the impact of managerial training on Managers, the influence of autodidactic knowledge on Initiators, and interest among Responders in practical implications of curriculum implementation. Organizational factors included the tendency for established, government-operated schools to foster Initiators. Other factors tested were strategy and policy factors. Although the multiple regression analysis used did not prove all of the factors to be predictive, those that were predictive accounted for 20 percent of the variance in the Responders, 31 percent of the variance in the Managers, and 48 percent of the variance in the Initiators. (PGD)

Factors Affecting Principals' Leadership as Facilitators of Curriculum Change: A Multivariate Approach

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Paper presented at the annual meeting of AERA, Chicago, 1985.

Abstract

The goal of this study was to construct a multivariate model of factors affecting each of the three leadership modes of principals as change facilitators of curicular change: Initiator, Manager and Responder. A questionnaire pertaining to policy, strategy, organizational and background factors as well as behaviors exhibited by principals in order to bring about curricular changes was administered to 69 school principals in the greater area of one of the major cities in Israel. Multiple regression analyses identified three different configurations of factors accounting for approximately 48%, 31% and 20% of explained variance of Initiator, Manager and Responder leadership modes. Background and organizational factors were found to contribute relatively more than strategy and policy factors to explain variance of these three modes.

INTRODUCTION

This paper seeks to assess the factors affecting the principals' role as change facilitators in the area of curricular innovation. Research focusing on the management of educational change has long been operating under the assumption that the principal's position in this school enables him/her to facilitate or block improvement or change (Berman and McLaughlin, 1977; Fullan, 1982; Knezevich, 1984). Furthermore, it has also been generally assumed that principals view their roles and define their priorities differently (Hall, Hord and Griffin, 1980; Leithwood and Montgomery, 1982). In the context of further research in the important area of introducing change into the school system, these two assumptions have been stated in the form of the following two operational propositions: (a) There is more than one way that principals may facilitate or block improvement or change, and (b) that these different ways are probably correlated with specific kinds of behavior which principals exhibit as they administer their schools. These behaviors are generally referred to as "leadership styles" or "leadership behaviors", concepts which are borrowed from organizational theory. Leadership is generally viewed as a function that generates a greater desire for goal attainment and, also clarifies the strategies or "paths" more likely to lead to goal realization (House, 1971). Utilizing these concepts investigators sought to estimate prevailing modes of leadership styles (or behaviors) and identify the change facilitating ones. As a result of these studies (Thomas, 1978 Rutherford and Griffin 1982; Sergovini, 1984; to cite only few and more recent ones), we now have operational description of the three prevailing modes of principals' change facilitator leadership styles summarized by Hall, Rutherford, Hord and Hulling (1984). The following is a short description of the indicators characterizing each style.

(a) "Initiators" seem to have strong beliefs as to the characteristics of good schools and good teaching, seek change and act in the framework of long range policies and goals. (b) "Responders" focus on traditional administrative tasks, emphasize personal relationships with teachers. Decisions are made in terms of immediate circumstances and not in terms of long range goals. (c) "Managers" display both responsive behavior and initiation of change. They provide basic support to facilitate teachers' use of an innovation but do not typically initiate attempts to move beyond what is externally imposed on the school. Empirical evidence lending support to such defined styles emerge not only from research performed in educational management settings but also in business management ones (Louck and Pratt, 1979; Rutherford, 1981; Hord, 1981).

Yet, while these studies are designed to identify specific indicators characterizing each particular change facilitator, leadership style they stop short of assessing the personal, background and organizational factors conducive to their appearance. Second, many of these studies do not focus on the principal in his/her capacity as a leader in curriculum related activities (Rutherford, 1983).

We generally interpret the concept of instructional leadership to encompass actions focusing on setting, school goals, defining the purpose of schooling, providing the resources needed for learning to occur, supervising and evaluating teachers and creating collegial relationships with and among teachers (Blumberg and Greenfield, 1980; De Bevoise, 1984). We suggest that instructional leadership encompasses, as well, principals' activities in the following areas: Initiating and implementing of curricular innovations, guidance of teachers in the interpretation, adaptation and construction of curriculum materials,

involvement in curriculum evaluation. An important aspect of instructional leadership is the personal involvement of principals in their teachers' development in the curricular area (Krug, 1957). We view tne latter involvement as the appropriate context for principals to guide their teachers in the above mentioned concerns, namely, the interpretation adaptation, construction and evaluation of curricular innovations.

In the context of the issue of school autonomy, principals manifest growing, interest in their role as curricular leaders. Principals do view their curricular involvement as an important component in their work. Eastbrook and Fullan (1978) report that 44 percent of tne principals in their sample actually spend a great deal of time on curricular tasks, while 76 percent indicated that they would like to devote a great deal of time to such tasks, Similarly, Leithwood and Montgomery in their review (1982) state that fewer than 50 percent of elementary school principals actively work toward instructional a program improvement in their school. It is reported that a curricular innovation may be implemented in schools with varying leadership styles, yet implementation was of higher quality in schools with "initiator" change facilitator leadership style principals (Huling, Hall, Hord and Rutherford, 1983).

THE PRESENT STUDY

Based on the foregoing analysis it seems that there is a need for a multivariate model of the personal background and organizational factors affecting each of the three styles of change facilitators focusing on the principal as a curricular leader. Since we do not have an a-priori theory related to these factors or their possible affect on the three change

facilitator styles, we regard this study as an explanatory one. Thus, it was designed to include factors pertaining to aspects relating to the principal's role as curricular change facilitators based on the following rationale : As curricular change facilitators principals are viewed as being involved in staff development activities. In this context they may adhere to certain policies. By policy we mean goals that principals may hold for their activities in this capacity, as well as their basic approaches to teachers' role in the curricular change process. Furthermore, different strategies, such as certain feedback orientations may serve the principals in implementing their policies. Different principals may not only possess different types of knowledge regarding curricular activities, but their knowledge and understanding of the subject may stem from different sources. Therefore, background factors, such as seniority and type of education, as well as organizational factors such as school size or type of ownership, have also been included in our study.

Our research framework hypothesized that curricular change facilitator styles of principals could be affected by:

(a) Policy and Strategy factors

(b) Personal background factors

(c) Organizational factors.

The above enumerated factors could be present in different configurations of different intensities and may have different weights in the three style of principal's actions as change facilitators. Based on the strength of the findings, it may be possible to obtain information pertaining to prediction of styles of change facilitation of principals. This information may be important

in the context of the renewed demand for school improvement and curricular change.

Specifically the objectives of the present study are: To identify and estimate principals' change facilitators leadership styles relating to curricular innovation. Second, to identify the configuration of policy, strategy, background and organization factors which best explain the variance in each style. Third, to assess the relative predictive power of each type of the four categories of factors an explaining the variance of the three models of change facilitators.

METHODS AND PROCEDURES

(a) Sample

A random sample of 69 principals was drawn from the school district of one of the largest cities in Israel according to the following breakdowns:

(1) Type of Ownership:

State :	36 principals (52%)
Non-State:	33 principals (48%)

(2) Type of Professional Training :

Managerial Training	19 principals (28%)
No Managerial Training	50 principals (72%)

(b) Instrument

A questionnaire which was developed for this study was administered to all principals participating in the study in the spring of 1983. The questionnaire consisted of three parts. The first part was structured to elicit data on principals' background factors and organizational factors. The second part consisted of items pertaining to factors related to strategy attributes and policy. The third part consisted of items assessing the kinds of behaviors principals exhibit on a day-to-day basis in order to bring about improvement/change in curriculum related activities. These were the criterion variables (dependent variables) in the present study. Most items appearing on the last two parts of the questionnaire were assessed by a five-point Likert

type scale ranging from not at all important (scale score 1) to very important (scale score 5). The rest of the items were assessed on a yes/no format.

(c) Variables Selected and Initial Treatment

Some 60 items and sub-items which constituted most of the questionnaire were initially selected. Yet, in order to construct the research model with tenable variables, a number of measures were taken:

(1) Criterion Variables (Dependent Variables)

Twelve specific items pertaining to behaviors that principals manifest while administer their schools were factor analyzed. Three factors emerged from this analyses. Reference to the items that made up these factors enabled us to label these factors in the same manner suggested by Hall and associates (1984). Thus, these factors were labelled: "Responder", "Manager" and "Initiator". Each principal was given a summed and averaged "level of specific change facilitator style". Scale scores over the items which loaded high (.40 or higher) were on each one of the factors. Zero-order correlation between the three styles of change facilitator styles in curriculum related activities were computed in order to eliminate redundancy. Results indicated no significant correlations ($p < .05$) thus suggesting that the three modes of identified styles are mutually exclusive (see Table 1 for means, standard deviations, zero-order correlations and sample items).

Insert Table 1 about here

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(2) Prediction Variables (Independent Variables)

Thirteen items pertaining to goals for utilizing curriculum materials in staff development were factor analyzed. Three factors emerged as follows: "Cognitive Goals", "Pupil-Oriented Goals" and "Evaluative goals".

Seven items assessing the approaches for utilizing curriculum materials in staff development were factor analyzed. The following two factors have emerged: "Negative Approach" and "Positive Approach". Each principal was given a summed and average scale scores over the items which loaded high (.40 or higher) on each one of the above listed factors.

Zero-order correlations were computed for four items pertaining to feedback orientations. The results obtained from this computation enabled us to construct two new scales as follows: "Out of School" and "In School". In addition, internal consistency reliability coefficients (Cronbach's alpha) were computed for scales comprising of more than two items. The values of these coefficients ranged from .63 to .81 indicating an acceptable level for basic research (see Nunnaly, 1967, p.226).

Cumulative analyses (Guttman Scales) were employed for items measured on a nominal scale (yes/no format). Two Guttman Scales, each comprising of two scale types have emerged. The first scale is comprised of six items assessing

principal's source of background knowledge of curriculum materials. The two scale types emerging from the analysis were: "Autodidactic knowledge" vs. "Non-Autodidactic knowledge". The second cumulative analysis was performed on five items assessing principals' orientation for their under- standing of curriculum material. The analysis yielded the following two scale types: "Understanding Principles and basic assumptions underlying the curriculum" Vs. "Understanding practical implications of curriculum implementation". (These two types will be referred to as "Understanding Principles" versus "Understanding Implementation"). The coefficients of scalability for these two scales were .74 and .79 respectively which are above the acceptable levels (see Eduards, 1957, p. 113).

Thus, after these initial treatments the 60 items and sub-items selected were reduced to 18 factorized and unfactorized variables which would be used to construct the empirical model. See Table 2 for summary of scales and sample items.

Insert Table 2 about here

(d) Statistical Analyses

Three separate multiple regression analyses were computed for each mode of change facilitator style in curriculum related activities after transforming nominal variables into dummy variables. No hierarchical inclusion criteria were established for the entry of any of the independent variables. For each of the

three analyses the scale scores of each mode of change facilitator style were regressed on all 15 variables comprising the following four categories of factors: Policy, Strategy, Background and Organization. The factors were conceptualized as predictor variables (independent variables) and the three modes of change facilitor styles as the criterion variables (dependent variables). The regressions were computed according to procedures presented by Kim and Kohut (1975). All operations were computerized based on SPSS program (Nie et al. 1975).

RESULTS

The estimated means and standard deviations for the three modes of change facilitator styles are given in Table 1. Since the mean scores of the three modes are different, it is apparent that these modes are present in the sample in different magnitudes as follows: "Responder" (2.32), "Manager" (3.25) and "Initiator" (3.98). Furthermore, the standard deviations of "Responder" and "Manager" are relatively low (.38; .50 respectively), the standard deviation of "Initiator" is quite high (.97) indicating a relatively high degree of variability around the mean in this particular style.

The zero-order correlations shown in Table 1 are generally low with the exception of the coefficient obtained for "Manager" and "Initiator" (though not significant at .05 level). These results suggest that although the three styles are mutually exclusive, as it was pointed out earlier, "Manager" and "Initiative" styles appear to have some similarities.

The results obtained from the regressions enabled us to assess they profiles of the three change facilitator styles. Thus, the "Responders" tend to be present in state owned schools and include cognitive goals as part of their policy for utilizing curriculum material in staff development. Furthermore, "Responders" tend to be less interested in understanding principals but rather interested in understanding practical implications of curriculum implications and and manifest an out of school feedback orientation.

Table 3 present a summary of simple correlations (r), multiple correlations (R), squared multiple correlation (R^2), F values (F), and significance levels

(p) for each step of the regression of "Responder" change facilitator style applied to the predictor variables. Results in this Table indicate that type of ownership (state) which is an "Organizational" factor, significantly correlated with "Responder" style at step one in the analysis (r = .302), and accounted for approximately 10 percent of "Responder" variance. At step two, the next variable to enter the regression equation was cognitive goals, a "Policy" factor, which when combined with type of ownership, served to increase the multiple correlation to .367 and the amount of shared variance to approximately 14 percent. The third variable to enter the equation at step number three was Understanding principles a "Background" factor. The simple corrclation between this and "Responder" was -.178 (p = .05). The addition of this variable to the regression equation increased the multiple correlation to .412 and the amount of shared variance to approximately 17 percent. The last variable to enter this regression equation was feedback orientation (out of school), a "Strategy" factor, which when combined with the variables in the equation, served to increase the multiple correlation to .444 and the amount of share variance to approximately 20 percent.

Insert Table 3 about here

Table 4 presents a summary of findings from the regression of the "Manager" facilitator change style applied to the predictor variables.

The "Managers" may be described in the following way: They are present in state owned school, oriented toward out of school feedback and tend to have

professional managerial training. They seem to include evaluative-oriented goals in utilizing curriculum materials in staff development. Their source of professional knowledge of curriculum material does not tend to be autodidactic.

The first variable to enter the regression equation was type of ownership (state) which is an "Organizational" factor. The simple correlation was positive yet moderate in magnitude ($r = .381$; $p = .001$).

The next variable to enter at step two was a "Strategy" factor, feedback orientation (out of school). When combined with the organizational factor at step one, the multiple correlation increased to .456, indicating approximately 21 percent of shared variance. The "Background" variable type of managerial training (professional) entered the regression equation on step number three. When combined with the two variables already in the equation the multiple correlation increased to .498 and the shared variance to approximately 25 percent Evaluative-oriented goals which are one of the "Policy" factors and source of professional knowledge (autodidactic) - a "Background" factor - entered the regression equations in steps four and five respectively. The inclusion of these variables in the equation served to increase the multiple corrolation to .558, and the amount of shared variance to approximately 32 percent,

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Insert Table 4 about here

Table 5 summarizes the results of "Initiator" change facilitator style applied to the predictor variables.

"Initiators" may be illustrated in the following way: Their source of knowledge of curriculum materials tends to be of autodidactive nature, they are present at state owned schools and tend to include less cognitive goals in their goals for utilizing curriculum material in staff development. They are most likely to be found in older more established schools.

The predictor variable entering the regression equation at the first step was source of professional knowledge (autodidactic) which is a "Background" factor. The simple "Initiator"/ autodidactic knowledge correlation was .520 ($p = 000$), indicating approximately 27 percent of common variance. The addition of type of ownership (state), an organizational factor, to the equation at step two raised the multiple correlation to .640 and the amount of common variance to approximately 41 percent. Cognitive goals, which is a "Policy" factor, entered the regression equation in the third step. The simple "Initiator"/cognitive goals correlation was negative and moderate ($r = -.312$; $p = .001$). The last variable to enter the regress ion equation in step four was the "Organizational" factor school seniority. The inclusion of the last two variables served to increase the multiple correlation to .690 indicating approximately 47 percent shared variance.

Insert Table 5 about here

DISCUSSION

The results of this study lend further support to the classification of principals' modes of change facilitator leadership styles as suggested by Hall and associates (1984). Furthermore, the four categories of factors, thought to influence these leadership styles in the context of curriculum innovation, proved to explain part of the variance of principals' behaviours.

The comparison of the list of factors which were hypothesized to be related to change facilitators leadership styles with those that indeed are found in the analysis shows that in each of the four categories of factors, there are some which have a significant effect on at least one of the leadership styles.

Attention to critical dimensions of principal behaviour is sorely needed (Leithwood and Montgomery 1982), therefore any light shed on this area may benefit school change and the implementation of educational innovations. What can be learned from the characterization of principals as leader in curricular endeavours ?

First let us state again the utmost importance of the function of instructional leadership as carried out by effective principals (ibid, p.322). On the basis of our study we are inclined to say that the principals who are characterized by a "Manager" leadership style tend to adhere to this style even while involved in curriculum innovation, and not only while acting as administrative leaders. Thus, the accepted distinction between instructional versus administrative leadership is weakened.

Literature describes as task oriented the actions of effective principals who aim at program improvement (Houts 1975). It seems to us that much of principals activities in the curriculum also are indeed task oriented. This reveals itself in their out of school feedback orientation, which may be interpreted as indicating a need for external approval, which is seen as a measure of task achievement.

On the other hand, findings indicate that in their role as leaders in curriculum improvement, principals emphasize staff development activities. This may be viewed as revealing an orientation toward people. Effective principals are involved in professional development program in their schools. (Berman and McLaughlin 1977; Reinhardt et al. 1979). We found principals to differ in their goals for staff development. Principals with a "Responder" style of leadership emphasize cognitive goals, while principals with an "Initiator" leadership style do not value cognitive goals. This findings may be interpreted as indicating a more diversified and open approach of "Initiators" to the task of staff development for curriculum improvement. "Manager" type leadership principals tend to focus on evaluative goals in staff development. This finding fits "Manager's" orientation toward clear criteria for assessment.

Background factors seem to shape the type of leadership which characterizes principals. It seems evidently logical that professional managerial training is related to the "manager" style of leadership. More interesting is the finding that antodidactic professional knowledge in curriculum matters characterizes "Initiators". It may be that the inherent wish to initiate program improvement leads principals to seek knowledge in curriculum matters. Conversely, the lack of such knowledge characterizes the "Manager" type of leadership.

Findings indicate that those principals who are interested in understanding the principles and rationale behind curriculum innovations, tend to exhibit less the "Responder" style of leadership.

Support for our findings is found in Silberstein (1983) who investigated the modes in which student-teachers learn about curriculum in their pre-service training programs. Silberstein noted the existence of a subgroup of teacher educators whom he termed "participants in staff development". These educators sought actively to extend their knowledge in curriculum matters and were characterized by their positive approach to curricular innovations and their interest in curricular principles. This population of teacher educators seems to be similar to "Initiator" principals.

Organizational factors seem to play an important role. It is interesting to note that governmental ownership of schools seems to create a school climate which lends itself to different leadership styles, even to the "Initiator" style. Yet, school seniority is a factor which seems to favour this leadership mode. It may be that well established schools create an "ethos" of their own, a school ideology, as well as agreed upon and clear directions. These may promote an "initiator" leadership style in which the principal takes upon himself/herself to launch new ideas. Obtaining such leadership itself is conducive to the development of school ethos and tradition.

Interesting implications may be drawn, among them that one should not expect too much initiating involvement in program improvement on, part of principals in new schools which are in the process of struggling for their very existence. In analogy to Fuller's (1969) theory of teacher development one may postulate that

it takes time and experience for schools to provide a fertile ground for the "Initiator" leadership style of principals. Moreover, only principals who are actively seeking for knowledge in curriculum areas are apt to exhibit this type of leaderships.

Several factors were not identified by the analysis as explaining the variance of any of the three leadership styles. The lack of significant effect of in - school feedback orientation in any leadership style is of particular interest. It indicates the low level of involvement in actual program improvement in their schools. School size, too was not found to prevent principals from exhibiting any mode of leadership. Neither a positive nor a negative approach toward teachers' active involvement in curriculum planning have a significant effect on any leadership style. This seems surprising - because on would expect "Iniatators" to be characterized by a positive approach. A possible explanation may be that some "Initiator" principals view themselves as the sole responsible agent for program innovation and improvement in their schools.

Some of the factors which affect more than one leadership style are consistent in the direction of their effect. Such is the case with out of school feedback orientation or "type of school ownership". Note that for two of theleadership syles, "Responder" and "Manager", this latter factor had the greatest effect and second greatest effect for "Initiator".

The totality of the factors in the present research model explained 20, 31 and 48 percent of the variance (R2) in the different leadership styles. The variance explained by the significant factors for "Initiator" change facilitator

style is the highest - 48%. THis indicates that the factors included in the study have the most predictive value for the "Initiator" leadership style. Findings of the present study indicate the worth of continuing research striving for further insights into the nature of factors which may be considered to have an impact on change facilitation by principle.

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Table 1
Means, Standard Deviations, Zero-Order Correlations
and Sample Items for the Three Change Facilitator Styles
(Criterion Variables) in Curriculum Related Activities (N=69)

Mode of Change Facilitator	Sample Item	Mean (1) (SD)	Zero-Order Correlations 1	2	3
1. Responder	"Providing for existing educational goals"	2.32(.38)	-		
2. Manager	"Working with teachers to maintain effective learning"	3.25(.50)	.093*		
3. Initiator	"Set priorities and seek out ways for implementation"	3.98(.97)	.112*	.193*	

(1) Scores range from 1 (not at all important) to 5 (very important)
* Not significant at p = .05 level

Table 2
Summary of Scales and Sample Items which were Utilized as part of the Independent Variables Set Utilized in the Study (N=69)

Scale		Method for Scale Construction
A. POLICY FACTORS		
GOALS AND APPROACHES FOR UTILIZING CURRICULUM MATERIALS IN STAFF DEVELOPMENT:		
1. Cognitive Goals(7)*	("Developing ability to ask related question")	Factor Analysis**
2. Pupil-Oriented Goals(4)	("Developing ability to activate students in different learning levels")	
3. Evaluative-Oriented Goals(2)	("Developing an understanding for evaluation of different approaches")	
1. Negative Approach(4)	("Teachers should implement rather than plan curriculum material")	Factor Analysis***
2. Positive Approach(3)	("Teachers should be active in planning curriculum material")	
B. STRATEGY FACTORS		
FEEDBACK ORIENTATION:		
1. Out of School(2)	("Obtaining feedback from the school inspector")	Zero-Order Correlation
2. In-school(2)	("Obtaining feedback from my teachers")	Zero-Order Correlation
C. BACKGROUND FACTORS		
SOURCE OF PROFESSIONAL AND ORIENTATION OF UNDERSTANDING OF CURRICULUM		
1. Autodidactic Knowledge(6)	("My professional knowledge of curriculum materials is based on self-learning")****	Guttman Scale****
2. Understanding Principles(5)	("I am interested in the principles underlying curriculum materials")	Guttman Scale****

* Number in parenthesis refers to number of items comprising each scale
** The analysis yielded 3 factors accounting for 79% of explained variance
*** The analysis yielded 2 factors accounting for 81% of explained varince
**** This sample item is the "most difficult item to pass which discriminates between the two types

Table 3
Summary of Stepwise Multiple Regression Analysis of the
the Predictor Variables Applied to the Change Facilitator "Responder"
Leadership Style (N = 69)

Regression Step	r	R	R^2	F	P
1. Type of Ownership (State)	.302	.302	.091	6.752	.01
2. Cognitive Goals	.251	.367	.135	5.156	.05
3. Understanding Principles	-.178	.412	.170	4.452	.05
4. Feedback Orientation (out of School)	.226	.444	.197	3.931	.05

Table 4
Summary of Stepwise Multiple Regression Analysis of
the Predictor Variables Applied to the Change Facilitator "Manager"
Leader Style (N = 69)

Regression Step	r	R	R^2	F	P
1. Type of Ownership (State)	.381	.381	.145	11.382	.001
2. Feedback Orientation (out of school)	.315	.456	.208	8.683	.01
3. Type of Managerial Training (Professional)	.311	.498	.248	7.175	.01
4. Evaluative-Oriented Goals	.224	.532	.283	6.329	.01
5. Source of Professional Knowledge (Autodidactic)	-.050	.558	.312	5.718	.05

Table 5
Summary of Stepwise Multiple Regression Analysis of
the Predictor Variables Applied to the Change Facilitator Responder
"Initiator" Leadership Style (N = 69)

Regression Step	r	R	R^2	F	P
1. Source of Professional Knowledge (Autodidactic)	.520	.520	.270	24.854	.000
2. Type of Ownership (State)	.450	.640	.410	23.227	.000
3. Cognitive Goals	-.312	.674	.454	18.061	.01
4. School Seniority (years)	.200	.690	.477	14.595	.05