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**ABSTRACT**

This is a study of the on-site implementer role--a linking role between developers and users of educational innovations. Using individual personality characteristics as the independent variable, an investigation of interactions between role incumbent's personal role definitions and organizationally given role definitions was undertaken. Results indicate discrepancies between personality characteristics of role incumbents and role behaviors expected, significant differences in the utilization of time by different personality types; and marked differences between formal role definitions and personal role conceptions. Implications of findings for selection and training of personnel, as well as for role design, are offered. (Author)

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THE ON-SITE IMPLEMENTER OF EDUCATIONAL INNOVATIONS:

An Examination of the Interaction Between  
the Role and the Personality of the Incumbents

by

Donna D. Mitroff

Paper presented at the Annual Meeting of the American Educational Research  
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During the era of the late 1960's and the early 1970's large sums of money were made available for the development of social programs. Much of this money went to education. Under the guidelines of such efforts as the Elementary and Secondary Education Act, the National Follow Through program and the Right-to-Read program, funds were available for the development and implementation of innovative programs in education.

In some instances these large scale programs included a provision for a local person who would serve as the on-site trainer/implementer for the innovative programs. The on-site implementers would train teachers in the new curricula. They would monitor the implementation of the new programs. They would form a link between the site and the developers or sponsors of new programs. The role of the on-site implementer was, in most cases, a new role for the school systems involved and a new role for the individuals who took it on.

The present study was concerned with two examples of the creation of on-site implementer role. One was the role known as the Educational Specialist, the on-site implementer of the Learning Research and Development Center's Individualized Instructional Model under the auspices of the National Follow-Through program. The other was the Team Leader role, the on-site implementer of the Free Learning Environment Model in the Pittsburgh Public Schools under the auspices of the Elementary and Secondary Education Act Title I program in Pittsburgh.

In each of the above cases one educational innovation--the on-site implementer role--was created in order to facilitate the implementation of another innovation--a new curriculum model. The necessity for a supportive role such as the on-site implementer described here has been cited in the literature

concerning the implementation of educational innovations (Baldrige, 1974; McLaughlin, 1975; Miles, 1964; Zaltman, Florio, & Sikorski, 1977). In fact the importance of on-site support personnel has been cited as one of the major factors contributing to the potential success of an innovative effort (Gross, Giacquinta & Bernstein, 1971; McLaughlin, 1975).

In the two cases being considered here it has been observed that the role appears to be performed quite differently from one individual to another. This appears to be true even though the formal role definition is the same for all incumbents in each case and even though a certain degree of uniformity of training can be assumed for the incumbents. Such variation in individual performance of a common role is not unusual. It has been the subject of study and has, in fact, developed into a special field of study known as "role theory".

From role theory has evolved an extensive set of concepts for explaining individual role variation. Since role theory has been primarily a subject of sociological study, the explanatory concepts tend to be social and organizational in nature. That is, such forces as organizational structure, administrative policy, resource allocation, and the like are assumed to act on the individual in such a way as to cause him to alter and adapt his personality to suit the role requirements. Most of the explanatory concepts of role theory have been derived by treating the social system as a source of independent variables and personality as dependent (Smelser, 1970).

This study was concerned with the reverse, i.e., the treatment of personality as a source of independent variables and the social system as dependent. In other words, it was concerned with the impact of personality variables on certain aspects of the individual's social system, specifically his role. One underlying assumption of this study was that individuals who held the role of on-site implementer may have altered, adapted and shaped

that role in order to make it more agreeable and consistent with their own personality characteristics. This study examined the interaction between certain personality characteristics of individuals and their interpretation and performance of the on-site implementer role.

### Conceptual Framework

The conceptualization of the problem under investigation is drawn from personality theory and role theory. The study is concerned with a point at which the two areas merge, that is, the interface between role and personality. In order to clarify this interface as it is being conceptualized for this study this section will present the specific perspectives on role and personality being taken for this research.

### Personality

The particular personality theory which was used in this study was conceptualized by Carl Gustav Jung in the early 1900's (Hall, 1973). Jung's theory of personality types was later operationalized and somewhat expanded by Isabel Myers and Katherine Briggs (Myers, 1962). It is the Myers-Briggs interpretation of the theory which is used in the study.

Jung's theory of personality types, or Jung's typology, is a system for organizing much of the apparently random differences in human behavior. According to the theory, much of the behavior can be described and categorized in a fairly consistent manner. The observable behaviors are the result of certain consistent differences in the ways in which people select to use their minds.

The basic differences are a result of the "preferences" for different styles which people habitually select. Two of the preferences concern the way people use perception. In this context perception means the ways in which they prefer to become aware of things, ideas, events. Two of the

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preferences concern the way people use judgment. In this context judgment means the ways in which they prefer to make decisions.

The two distinct modes of perception are referred to as sensation and intuition. When using the sensation mode, one is perceiving conscious experiences directly through the senses. Therefore, the type of information collected tends to be concrete and specific. The sensation type sees all of the details of a situation and is concerned with the practicalities. The sensation type is oriented to the here and now, the present.

Perceiving through intuition, on the other hand, is more of an unconscious process. The intuitive type gets hunches or ideas from "out of the blue." The intuitive is less concerned with the details and more concerned with the over-all picture, with the associations and relationships of one idea to another. The intuitive is oriented to the possibilities of situations, to the future.

While each person can and does use both modes of perceiving, the theory postulates that individuals enjoy one mode over the other, use it more frequently and thereby develop it to a greater degree. It therefore becomes their habitual way of coming to know about their world.

Just as there are two distinctly different ways of perceiving, there are two distinctly different ways of judging. Judgment is related to the way in which individuals "come to conclusions" or "make decisions" about what was perceived. The two different modes are referred to as thinking and feeling. Thinking is the analytical logical process. It tends to be impersonal. It tends to lead to decisions which are made in terms of true/false, correct/incorrect categories.

Feeling, on the other hand, would tend to lead to decisions made in terms of good/bad, right/wrong categories. Feeling type decisions would be based on a set of highly personal values and feelings. The feeling type person would be interested in the human aspect of the situation.

The different modes of perceiving and judging combine together to form the four functions in Jungian personality theory. Jung described sensation and intuition as the "irrational functions" because they require no reason. They are mental states of the individual which have no particular aim. This does not imply that they are contrary to reason but rather that they have no relation to reason and as such are nonrational. In contrast to this thinking and feeling are described as the "rational functions" because they require an act of judgment (Hall, 1973, p. 99). According to the theory, one of the four functions will dominate the other three and thereby the personality of the individuals.

In the Myers-Briggs interpretation of the typology similar distinctions are made but instead of speaking in terms of the dominance of one of the rational or irrational functions, Myers and Briggs speak instead of the dominance of one of the basic processes over the other. That is, people develop a preference for the perceiving process or for the judging process. For example, some individuals would rather go on collecting information in their preferred manner (i.e., perception or P dominant) while others prefer to bring the data collection to an end so that they can make the judgment in their preferred manner (i.e., judgment or J dominant). Since it is necessary for all individuals to perform both the collecting and concluding behaviors, the dominant process will be accompanied by the other in a secondary or auxiliary manner.

To help clarify the way in which the different combinations of perceiving and judging go together, the following graphic representation is presented (see Figure 1). In Figure 1 the sensation (S) and intuition (N) preferences are placed on opposite ends of the perceiving dimension. Then on the judging dimension, one end is labeled thinking (T) and the other is labeled feeling

(F). From this figure it can be seen that each of the four quadrants represents one of four possible perception-judgment combinations. Each combination produces a unique personality which differs in fundamental ways from the other three.

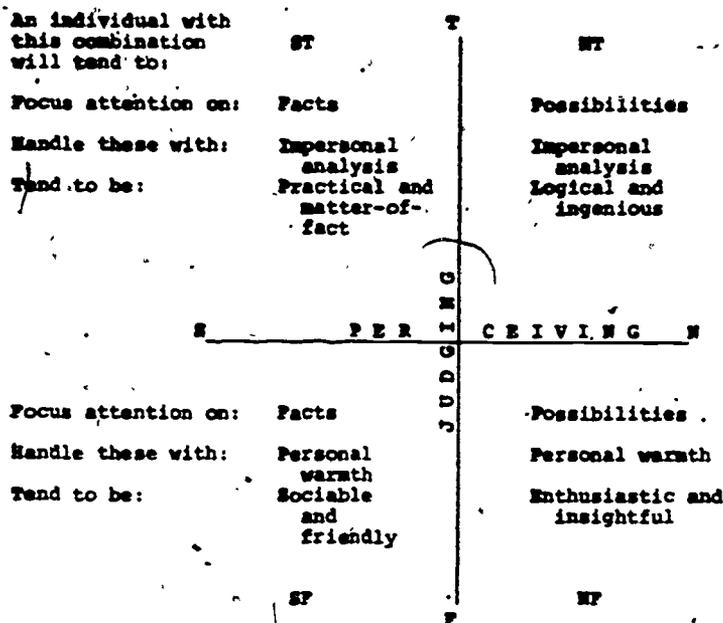


Figure 1. Perception/Judgment Combinations  
(Adapted from Myers, 1962, p. 56)

There is one more aspect to Jungian theory which needs to be brought to bear on this discussion. It concerns the two fundamentally different attitudes a person can have--either extraversion or introversion. The terms were formulated by Jung to describe two orientations to life. Briefly stated, introversion refers to an orientation to the inner world of concepts and ideas whereas extraversion refers to an orientation to the outer world of people and things. These orientations determine whether one will direct perception or judgment upon the internal or the external environment.

To summarize the discussion thus far, Jungian theory postulates that individuals differ along four separate dimensions of basic preferences for dealing with the world. The dimensions are extraversion/introversion (E or I), sensation/intuition (S or N), thinking/feeling (T or F), and perception/judgment (P or J). When the different dimensions are combined, 16 personality combinations result.

One of the advantages of the typology is that the types are, by definition, free from implications of intellectual or moral superiority. Each type has its special talents, its usefulness, and its limitations.

From this formulation of personality one can speculate that there would be fundamentally different ways in which individuals of the different types would behave. Furthermore, one can speculate that there would be notable differences in the ways in which different types would perform occupational roles. The personality theory described here implies that different individuals would not only perform the same role differently, but that they would have fundamentally different ways of conceptualizing the role and that they would approach the same role with fundamentally different assumptions about it.

### Role

Turning from the theory of personality selected for this study, this section outlines the specific framework from role theory which this study focuses on.

As stated in the introductory section, role theory, as it has been defined and developed in the sociological literature, tends to regard "role" as the result of the social and organizational factors impacting on the individual. The rationale for this position is offered by Levinson (1970) in the following statement:

The organizationally given requirements will be internalized by the members and will thus be mirrored in their role-conceptions. People will know, and will want to do, what is expected of them. The agencies of role socialization will succeed except with a deviant minority. . . Individual action will in turn reflect the structural norms, since the appropriate role-conceptions will have been internalized and since the sanctions system regards normative behavior and punishes deviant behavior. (p. 475)

Levinson's points out that this "rationale" assumes a unitary concept of role. A concept which assumes a "high degree of congruence" among the structural norms of the role, the individual's conception of the role and the individual's role performance. He argues that while it may be reasonable to

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expect some congruence among these aspects of role, it is naive and restrictive of our understanding to treat them as a discrete unity. He suggests the following as separate role concepts which require investigation.

On the one side are the "organizationally given role-demands." These are external to the individual. They derive from formal sources such as job descriptions and organizational policies, and from informal sources such as group norms.

On the other side are the "personal role-definitions" which Levinson defines as "the individual's adaptation within the organization." Levinson poses a sharp distinction between two levels of adaptation, i.e., "at a more ideational level, we may speak of a role-conception; at a more behavioral level, there is a pattern of role-performance" (p. 418).

Levinson suggests that there will be varying degrees of "fit" between the formal role definition and the personal role-definition.

### Personality and Role

It was the premise of this study that Jungian personality theory could be a fruitful way of examining the "fit" or "misfit" as the case may be, between formal role definitions and personal role definitions.

This conceptual framework suggests that the formal role demands and expectations will be interpreted by the individual through the dominant processes of his personality type. The individual's interpretation of the role will represent his personal role definition.

In the formation of his personal role definition, the individual will emphasize or de-emphasize certain aspects of the role in a manner consistent with the basic preferences of his personality type. When there is a fit between the demands or expectations of the role and the characteristics of the

individual, there will be a fit between the formal role definition and the personal role definition on both the ideational level (the role conception) and on the behavioral level (the role performance). Correspondingly, when there is a misfit between the formal role expectation and the personality characteristics and preferences, the personal role conception will reflect it through the adaptations and iterations which are made. In this latter case it is to be expected that the role which the individual actually plays will be different from what the formulators of the role intended.

### The Study

The problem of this study was to examine the relationship between certain personality characteristics of individuals and the manner in which they conceptualized and performed a particular educational role. The over-all investigation asks; when the role definitions, both formal and personal, are analyzed in terms of the Jungian personality theory what interactions can be observed between the role and the personality of the incumbents?

The study investigated the following four objectives and related research questions.

Objective #1. To describe the incumbents of the on-site implementer role in terms of their representativeness among Jungian personality types.

Question. Are some personality types represented in greater percentages than others? Are some types not represented at all?

Objective #2. To analyze the formal role definitions for each of the two cases (educational specialist and team leader) and compare the role-demands implied and expressed with specific personality type functions.

Question. Is the organizationally defined role likely to obtain a better fit with particular personality types?

Objective #3. To examine the ways in which different personality types utilize time in the actual performance of the role of the on-site implementer.

Question. Will specific types report higher percentages of time spent on tasks which are consistent with their personality types? (For example, will thinking types report more time on tasks related to the curriculum such as keeping records, designing materials, etc., while feeling types report more time on tasks which require interpersonal interactions, e.g., working with teachers, students, etc.)

Objective #4. To examine the ways in which different personality types describe the way that the role of on-site implementer should be carried out, i.e., their role-conception.

Question. Will specific personality types project onto the role those characteristics which are most consistent with their type?

### Subjects

The subjects of the study were the 32 incumbents of the two role cases, i.e., the two examples of the on-site implementer role. There were 21 educational specialists who come from seven school districts in widely distant parts of the county. There were 11 team leaders who all come from the western Pennsylvania area.

Participation in the study was voluntary. Table 1 shows the individual subject data which was collected and used for the analysis.

Table.1

### Individual Subject Data

Questionnaires	MBTI's	Both Questionnaires and MBTI's
26	27	21

### Data Sources

**Individual Personality Characteristics:** The source of data on individual personality characteristics was the Myers-Briggs Type Indicator, Form F. The MBTI is a forced choice self-report inventory designed for use with normal subjects. The instrument was developed by Katherine Briggs and Isabel Briggs Myers. The revising and norming of the instrument was carried out by ETS which published it in 1962. Publication and distribution of the Indicator was taken over by the Consulting Psychologists Press of Palo Alto in 1975.

Reliability of the Indicator has been investigated through the use of split-half procedures. These measures of internal consistency show correlations mostly in the .70 and .80 range (Buros, 1970, pp 1126-1131).

Validity of the Indicator is provided by evidence on the correlations of the Indicator to other tests, ratings, and empirical studies. The reported relationships of the Indicator to other measures tend to be in the expected direction for supporting its validity. (Myers, 1962, pp 21-34)

**Formal Role Definitions:** Job descriptions were obtained for each of the role cases. The job descriptions were examined for statements of behavioral expectations from incumbents. The sets of behavioral expectation statements were then analyzed by a panel of judges with expertise in the personality theory. The judges classified each of the statements in terms of the personality characteristics which are required to perform it.

The classifications by the judges were analyzed for the percentage of total tasks being given each of the classifications. This procedure made it possible to speculate on which of the personality characteristics might obtain the best fit with the expectations of the roles.

**Personal role definitions:** The ideational level (what one thinks his job should be) was operationally defined for this study as the individual's role conception. This was obtained by having subjects respond to a written question asking them to describe the functions that one in their role should perform.

The passages which the subjects wrote were analyzed by the panel of judges. The judges indicated which personality preferences were being expressed and to what degree.

The resultant data was analyzed to consider the extent to which the conception of the role by the incumbents matched the intent of the role as indicated in the job description.

The behavioral level (how one behaves in carrying out the job) was defined as the way in which the individual utilizes time in the performance of the role. This was obtained by having subjects respond to a written question asking them to indicate on a list of 19 tasks which tasks they performed and the percentage of time spent on each. The percentages of time spent on various activities were explored through class-tabulations with personality type. Chi-square and Spearman's rho were computed to test for significance between the time spent by individuals of different personality types a various tasks and on the rank ordering of tasks in terms of time spent.

## Results

The results of the data analyses are presented in relation to each of the four research objectives.

### Objective #1: Representativeness of Types Among the On-Site Implementers

By compiling the results of all the individual Myers-Briggs Type Indicator profiles Table 2, showing the number of individuals representing each of the 16 personality types, was constructed.

Table 2  
Frequency of Types Among the On-Site Implementers  
(N = 27)

Types				Summary of Preferences	
ISTJ N = 3	ISFJ N = 5	INFJ N = 1	INTJ 0	E = 15 I = 12	56% 44%
ISTP 0	ISFP N = 1	INFP N = 1	INTP N = 1	S = 17 N = 10	63% 37%
ESTP 0	ESFP N = 1	ENFP N = 3	ENTP N = 3	T = 9 F = 18	33% 66%
ESTJ N = 2	ESFJ N = 5	ENFJ N = 1	ENTJ N = 1	P = 9 J = 18	33% 66%

When the overall representativeness of each of the eight dimensions is considered as in column 5, it can be seen that there are more extraverts (56%) than introverts (44%), more sensing types (63%) than intuitive types (37%), more feeling types (66%) than perceptive types (33%).

These data show that the most represented combination is the sensation-feeling type (44% of the sample) followed in order by the intuitive-feeling type (22%), the sensation-thinking type (18%), and the intuitive-thinking type (15%). There are also more extraverts (56%) than introverts (44%) and more judging types (66%) than perceptive types (33%).

Comparison to other occupational groups showed that type representation

among the sample of on-site implementers is similar to other educationally related groups--particularly to elementary school teachers.

Analysis of the personality composition of each of the role cases separately indicated that for the most part the preferred preferences are similar except that the educational specialist role has drawn more introverts than extraverts while the team leader role has attracted more extraverts. According to the expectations, which derive from the typology theory, one might expect to find more extraverts among the subjects since the role, in both of the cases, represents an outer-directed orientation. It might be of interest to investigate how and why the incumbents came to the role. Did they seek it out or were they sought for it?

#### Objective #2: Analysis of the Formal Role Definitions

The goal of the analysis for objective #2 was, essentially, to map the role demands onto the personality theory. The results of the judges' classification of the statements from the job descriptions permits one to speculate that some of the personality preferences are better matched to the role than others. Therefore, certain personality types should find it more natural to perform the role in a manner consistent with the formal demands.

The classification by the judges of formal role demands for the team leader role suggests the following statements concerning the personality factors which best match the role demands:

-There is a greater demand for the extraverted attitude than for the introverted.

-A preference for perceiving through either sensing or intuition will find outlets in this role.

-Almost half of the behaviors call on the use of thinking judgment over feeling judgment.

-Almost half of the role demands are better matched to a preference for the judging attitude which results in a planned, orderly style more than a flexible, spontaneous style.

The classification by the judges of formal role demands for the educational specialist role suggests the following concerning the personality factors which best match the role demands:

-While most of the role behaviors do not call on a specific preference for either extraversion or introversion, there is an advantage among the remaining behaviors for one who prefers extraversion.

-There is a decidedly greater demand for the use of intuition over the use of sensation.

-There is a decidedly greater demand for the use of thinking judgment over the use of feeling judgment.

-While there is a slightly greater demand for the use of the judging attitude, there are also many behaviors for which the exercise of either attitude will be appropriate.

### Objective #3: Analysis of Time Utilization Among the On-Site Implementers

As indicated previously the data on the use of time were obtained by having individual subjects report the percent of time they spend in the performance of various tasks (19) which make up the overall role.

In order to perform statistical analysis using chi-square, the tasks needed to be grouped. This was necessary because the percentages reported on individual tasks were not great enough to permit the use of chi-square.

Tasks were grouped according to a task typology proposed by Seltzer (1976). For the purposes of this study, this task typology has the advantage of being

based on the dimensions of the Jungian personality theory.

Once the tasks were grouped, the combined data for all tasks in the group became the subject of the analysis. As the tasks were grouped according to the combinations of the four functions (sensation and intuition, and thinking and feeling) so too were the subjects grouped according to the MBTI results on the function combinations.

Table 3 presents a cross tabulation between the four personality groups and the four task categories. An examination of the data in Table 3 indicates that the two task categories which are commanding the most time by all types are the interpersonal (SF) and planning (NF) categories while the task cluster commanding the least time is the problem solving (NT) category.

Table 3  
Percent of Time Spent by Personality Type Groups on Task Categories

Personality Types	Task Categories			
	ST Routine	NF Planning	SF Interpersonal	NT Problem Solving
NT	17.33	32.37	43	8.53
SF	22.92	29.42	37.33	10
NF	12.23	36.13	41.80	7.17
ST	23.50	36.50	29.50	7

$\chi^2 = 8.65$  N.S.

Chi-square was performed to test for significance between the time spent by different personality types on the different task clusters. For these data the obtained chi-square of 8.65 is not statistically significant. Therefore, the results of the test show that the time spent on the different task clusters is not statistically different for the different type groups.

It was felt that a partial explanation for the lack of statistical significance might lie in the nature of the individual task descriptors. The tasks were described for a questionnaire to meet the needs (and the constructs) of another study (Hartnett, 1977). For that reason, the wording of the task

descriptors was not designed to eliminate what, for this study, become ambiguities. Therefore, it was decided that a subset of tasks which most clearly met the definitions of the task typology would be designated and that a second application of the chi-square would be conducted.

In performing this post hoc analysis of the data, eleven of the nineteen tasks were retained and used for the compilation of new data. For these data the obtained chi-square of 19.33 is significant at the 0.05 level indicating that the distribution of time spent by different personality groups is statistically significant when a subset of tasks most representative of the task category is considered.

A second analysis of the use of time data was performed by applying the Spearman rank order correlation coefficient ( $\rho$ ) because it was noted that specific individual tasks appeared to receive higher percentages of time allocations by different personality groups. It was decided that an appropriate way to determine if different personality groups were implicitly giving priorities (i.e., by their time allocations) to different tasks was by testing the rank ordering of the tasks by different groups.

The first step in this analysis was to order the nineteen tasks from most to least time spent for each of the personality type groups. That data is shown in Table 4.

A cursory examination of the rankings shows that there are some differences from group to group. For example, while the NF's, SF's and NT's all spent the highest percentage of time on task 13, working with or tutoring students, the ST's spent the highest percentage of time on tasks 9, general maintenance classroom observations and task 18, collecting data. The SF group spends the second highest percentage of time collecting data, but the NF and NT groups show collecting data to be tenth and eighth in terms of time spent.

Table 4  
 Rank Orders of Tasks in Terms of Time Spent by Personality  
 Type Group

Task No.	Task Description	ST's	NP's	SP's	NT's
1.	Promoting or explaining program to people not connected with the program	13	17	12.5	18
2.	Writing reports	15	9	14	16
3.	Designing and conducting in-service workshops.	13	6	6	8
4.	Designing and conducting pre-service workshops..	17.5	14	16	15
5.	Designing new curriculum materials.	17.5	16	17	13
6.	Designing supplementary or replacement materials.	13	12	8.5	12
7.	Sorting, organizing, delivering materials.	4.5	15	4	5
8.	Check record keeping in classrooms.	4.5	7	11	8
9.	General maintenance classroom observations.	1.5	4	7	3
10.	General maintenance conference with teachers.	9	3	5	6
11.	Focused pre-planned classroom observations.	9	8	8.5	4
12.	Conferences following focused classroom observations.	10.5	5	10	11
13.	Working with or tutoring students.	8	1	1	1
14.	Working with parent visitors or volunteers.	16	18	18.5	14
15.	Substituting for teachers and aides.	7	19	18.5	10
16.	Working with school personnel not officially part of the program, such as administrators, principals, elementary supervisors, etc.	6	13	12.5	17
17.	Working with project personnel, excluding teachers and aides, such as other team leaders, Project Director, peer teachers, etc.	10.5	2	3	2
18.	Collecting data.	1.5	2	3	2
19.	Traveling from school to school.	19	11	15	19

Another interesting contrast is seen on Task 7, sorting, organizing, delivering materials. While the ST's, SF's and NT's show this task to be fourth and fifth in terms of time spent, the NF's show it to be fifteenth.

In order to determine if the differences and similarities which are apparent in Table 11 are of any statistical significance, the Spearman rank order correlation coefficient was calculated. The personality groups were paired for the analysis in such a way that the most unlike types would be contrasted to one another. Therefore, the rank order correlations were examined between the sensation-thinking types and their opposites--the intuitive-feeling types as well as between the sensation-feeling types and their opposites--the intuitive-thinking types. The analysis indicated that the ordering of the sensation-thinking group and the intuition-feeling group are not statistically correlated to one another, whereas the orderings of the sensation-feeling group and the intuition-thinking group are statistically correlated.

The analyses do seem to indicate that the different personality types are assigning different time allocations to different tasks. In the case of the ST group the five tasks which are receiving the most time (collecting data; general maintenance classroom observations; focused pre-planned classroom observations; sorting, organizing, delivering materials; and check record keeping in classrooms) are all tasks which are appropriate to the preferences of sensation and thinking. Note, for instance that the ST group puts classroom observations (tasks 9 and 11) in the top five tasks, but puts the follow-up conferences with teachers in the ninth and tenth position. The point is that follow-up conferences are interpersonal and interactive tasks. Such tasks, according to the personality theory will be "less preferred" by the sensation-thinking type.

While it is not possible to make a clear case for the ordering of the tasks by the other personality groups, there are enough trends and differences to indicate that the phenomenon is worthy of further investigation.

Objective #4: Analysis of Individual Role Conceptions.

The major issue being addressed in objective 4 is whether or not the incumbents of the on-site implementer role will project into their description of the ideal role characteristics which are consistent with their personality types. This is a form of the question of whether type (or rather, specific dimensions of type) can be predicted from a content analysis of a written passage.

In order to assess this issue the data in the following table is presented. The table summarizes the classifications by the judges of the individual passages.

Table 5  
Personality Preferences From Role Conception Passages

	Preferences			
	Sensation	Intuition	Thinking	Feeling
Number of S's expressing preference on MBTI	14	7	5	16
Number of S's expressing preference in role conception (as judged by panel)	12	9	13	8
Number of preferences correctly identified by judges	7	2	3	6

The table shows that the preference being most clearly projected into the ideal role statements in such a way that it is identifiable by the judges is the preference for perceiving through sensation. In all other preference areas the discrepancies between the MBTI data, the judges classifications, and number of preferences correctly identified are quite great. In fact they are great enough to lead us to say that personality preferences were either not being projected into the ideal role statements or that the techniques used to identify and classify the statements is inappropriate.

### Summary and Conclusions

Referring back to the conceptual framework for the interrelationships between formal role definitions, personal role definitions, and personality preferences, the findings of this study suggest the following points.

The relationships between formal role definitions and the personality characteristics of the incumbents show that the majority of the incumbents of the Team Leader role generally possess the preferences which best match the formal role demands but that there are some marked discrepancies between the preferences most required to meet the demands of the Educational Specialist role and the dominant preferences among the incumbents of the role.

In both cases the roles call more upon the exercise of impersonal analytical logic in decision making than the opposite form, i.e., personal values-based logic. However, the majority of the incumbents in both roles, being feeling types, will according to the personality theory, turn instead to a personal, values-based logic.

The relationships between the role conceptions and the personalities of the incumbents indicate that the incumbents are projecting the characteristics of sensation and thinking onto the role while the personality data shows them to be predominantly sensation feeling types. The differences suggest that in one setting (the MBTI) the incumbents lean toward a personal, values-based logic for decision purposes but in another setting (the writing of the passage) they indicate that what they should use is a more impersonal, analytical logic for decision making.

If we take these findings at face value they have implications for the role in that they present a situation where the incumbent is in a double bind. The double bind is between what the incumbent can do best and likes to do best and what he thinks he should do.

The study suggests that there is a relationship between role performance and personality. The role performance, or use of time data, indicated that the subjects are spending their time on the following task groups from most time to least time: interpersonal (SF) tasks, planning (NF) tasks, routine (ST) tasks, and problem solving (NT) tasks. This is generally consistent with the personality types among the population in that the largest group is the SF's (44%), next are the NF's (22%), then the ST's (18%) and finally the NT's (15%).

This does seem to indicate a relationship between the personality preferences and their allocation of a very special resource--their time.

The data on the relationship between role conception and role performance indicate that although the subjects described the role in ST terms they are spending more of their time in the performance of SF tasks.

The available data allow for comparison between formal role definitions and personal role conceptions of the S/N and T/F dimensions. The indication is that the formal roles ask for the performance of both sensation and intuitive behaviors in the case of the team leader role and predominantly intuitive tasks in the case of the educational specialist role, the incumbents, however, conceptualize their role more in sensation terms than intuitive terms. These findings suggest that some differences between these components exist, or persist, even though the subjects of the study have been through training and have been in the roles for some time. One implication might be that certain aspects of the formal role definition, particularly those emphasizing the use of intuition, need to be revised or that different training activities need to be devised.

On the T/F dimension, the formal role behaviors are classified as calling on thinking judgment and likewise the incumbents conceptualize their role as.

requiring thinking judgment. This concurrence is notable because the majority of the incumbents showed a preference for feeling judgment over thinking judgment. In this case individual personality preferences did not pervade the role conception and in fact the reverse is true. It appears that other forces in the environment, those more traditional to role analysis, have acted upon the incumbents in such a way as to cause them to conceptualize the role in a manner consistent with the formal definition rather than their personal preferences.

The data on the relationship between formal role definitions and role performance indicate that the incumbents are performing the role more consistently with their personality preferences than with the formal definitions of the roles. In fact, in the case of the educational specialist role the majority of the role demands were classified as requiring NT type behaviors, but the role performance data indicate that the NT task group is receiving the least amount of time by the incumbents.

#### Implications of the Findings for the On-Site Implementer Role

The findings of this study have implications for the over-all conceptualization of this important educational support role. For example, since it was possible to use the typology to analyze the formal demands of the role it would also be possible to use the typology as a referent for the design of the role. In order to do this, role designers would subject their job descriptions to an analysis in order to determine whether or not they have created a one-sided role, i.e., a role which draws so heavily on certain aspects of personality that there is no room for individuals with different preferences to find legitimate outlets.

In a certain sense, role design may be the "role conception passage" of the role designer, i.e., it may be an expression of the designers "ideal role". It should be the designer's responsibility, therefore, to examine the role and determine if he, has, in fact, projected his own personality preferences and strengths into it.

In another sense, analysis of a role at the design stage can lead to better standards of expectation from the incumbents. If the role has been designed in such a way as to require the exercise of all the personality dimensions, it can be known at the outset that no one incumbent will or can perform all role behaviors equally. As this study suggests different personality types do alter the role through the way they allocate time to different tasks.

These points lead to a major recommendation, the recommendation for a role design which calls for the creation of on-site support teams instead of individuals. This writer is aware of the problems of such a recommendation in these times of declining funds for education. However, it should be noted that the recommendation comes out of the theoretical implications of the study. The writer thinks it legitimate to justify a recommendation theoretically prior to justifying it pragmatically.

The data have indicated that the on-site implementer role is, and needs to be, a multi-faceted role. One way to assure the treatment of all the facets is to organize teams based on the strengths which different individuals can contribute. Efforts to use the personality typology as a framework for organizing teams is in fact already being explored (McCaulley, 1975).

There are also implications for training on both the individual and the team level. The most direct implication is that incumbents be made aware of the conceptual framework of the typology and of their own measured preferences.

This amounts to using the typology as a tool for creating self-awareness. The typology lends itself well to such use because it is essentially a measure of individual difference in which each type has strengths and weaknesses while no one type is treated as superior or "more healthy" than the others. Part of the self-awareness training would be to assist incumbents in seeing the implications that their own preferences might have on their interpretation and performance of the role. Not only could they become aware of aspects of the role which they may have problems with, they could also come to acknowledge those aspects which they prefer to do and will do best. This notion is supported by some of the findings from the research on leadership (Fiedler, 1969).

Implications of individual differences for the functioning of a team could be dealt with through such training devices as simulation, role playing, discussion of research findings, and analysis of case studies. (The reader will note the effort to suggest a range of training activities which will appeal to different types.)

Ultimately, of course, the framework can help team members anticipate and deal more effectively with the different personality types they will encounter among the teachers whom they support.

In summary, the findings of this study do have implications for the design of the on-site implementer role, for the selection of personnel for the role, and for the training of incumbents.

All of these suggestions have implications for improving the process of implementing educational innovations. And that brings us back to the beginning of the study where it was noted that one educational innovation was created to facilitate the implementation of another innovation. The

main point to be made here is that the secondary innovation, in this case the on-site implementer role, requires and deserves as much research and attention as the primary innovation.

Finally, the study shows that the findings of such research can contribute new ideas to the design of and training for this innovation support role. Improvements in the system of supports for the implementation of educational innovations holds the promise of improving the implementation process and thereby facilitating change in the school.

## BIBLIOGRAPHY

- Baldrige, J. V. Political and structural protection of educational innovations. In S. Temkin & M. V. Brown (Eds.) What do research findings say about getting innovations into schools: A symposium. Publication No. AT-5, Philadelphia, Pennsylvania: Research for Better Schools, Inc., 1974.
- Buros, O. K. (Ed.). Mental measurements yearbook. New Jersey: Gryphon Press, 1970.
- Center for the Applications of Psychological Type. Myers-Briggs Type Indicator Information Bulletin. Gainesville, Fla.: August, 1976.
- Fiedler, F. E. Style or circumstance: The leadership enigma. In W. R. Lassey (Ed.) Leadership and social change. Iowa City: University Associates, 1971.
- Gross, N., Gfacquinta, J. B. & Bernstein, M. Implementing organizational innovations. New York: Basic Books, 1971.
- Hall, C. S. & Nordby, V. J. A primer of Jungian psychology. New York: New American Library, 1973.
- Hartnett, P. An exploratory analysis of the role of the educational specialist. Unpublished doctoral dissertation. University of Pittsburgh, Learning Research and Development Center, 1977.
- Jung, C. G. Analytical Psychology. London: Routledge and Paul Kegan, 1968.
- Levinson, D. Role, personality, and social structure in the organizational setting. In Smelser & Smelser (Eds.) Personality and social systems. New York: Wiley and Sons, 1970.
- McCaulley, M. H. (Guest Ed.). How individual differences affect health care teams. Health Team News, April, 1975 8(1). Published by the Institute for Health Team Development, Bronx, New York: Montefiore Hospital and Medical Center.
- McLaughlin, M. W. Innovations in classroom organization. Paper presented at the Annual Meeting of the American Educational Research Association, Washington D.C., 1975.
- Miles, M. (Ed.). Innovation in education. New York: Teacher's College Press, 1964.
- Myers, I. B. Manual for the Myers-Briggs Type Indicator. New Jersey: Educational Testing Service, 1962.
- Smelser, N. J. & Smelser, W. T. Personality and social systems, (2nd ed.). New York: John Wiley and Sons, Inc., 1970.
- Zaltman, G., Florio, D. & Sikorski, L. Dynamic educational change. New Jersey: The Free Press, 1977.