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ABSTRACT

The purpose was to identify characteristics of the faculty and departments which had voluntarily initiated instructional innovations through the Educational Development Program (EDP). A profile of the participating faculty was developed and characteristics of 90 EDP project directors were compared with those of a random sample of 250 other faculty members at the university. The 18 variables selected from the Rogers and Shoemaker model included age, faculty status, size of teaching load, specialization of teaching responsibility, innovativeness, and knowledge of instructional innovations. Some questionnaire data was based on self-rating. There were five general conclusions: (1) EDP supported innovators were representative of MSU faculty regarding age, rank, and college affiliation; (2) three types of project directors were identified by characteristics; (3) there were differences between the 2 test groups in personal and social characteristics; (4) the faculty could be identified as innovators, early adopters, and non-innovators; (5) EDP innovators perceived their departments did not provide sufficient financial and/or psychological support for instructional innovation. (JAB)

A STUDY OF INSTRUCTIONAL INNOVATORS AT MICHIGAN STATE UNIVERSITY

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INTRODUCTION

The Educational Development Program (EDP) at Michigan State University relies on voluntary faculty initiative to bring about instructional innovations. Under such a program, individual teaching faculty members sense the need for change, decide to do something about it, and take action to introduce new instructional ideas or techniques into their classes. If they are among the first in their departments to adopt these new ideas or techniques, these faculty would be considered innovators. One role of EDP is to provide support for their innovative efforts. Such a model is considerably different from the more traditional approaches in which a professional change agent from outside a faculty member's department identifies a need and attempts to persuade the faculty member to adopt a particular innovation to satisfy that need.

Prior to 1976 very little was known about the faculty members who had voluntarily initiated EDP projects to support instructional innovation. It was not known whether EDP project directors were different than the average faculty member, whether EDP projects were equally distributed among academic areas, or how much influence a department had on the innovation process being supported by EDP.

In 1976, as part of an extensive review of the development of EDP at Michigan State over the past decade, a study was done to identify characteristics of the faculty and departments which had participated in the program. The first part of this study developed a profile of the faculty who had directed EDP projects and was reported in *Commitment to Excellence, A Case Study of Educational Innovation* (Davis, et. al., 1976). The second part of the study compared the characteristics of these EDP project directors with the characteristics of other faculty at MSU (Sachs, 1976). Since this research has been reported in detail elsewhere, the following report presents only the more significant findings from this study of innovators at Michigan State University.

DESIGN OF THE STUDY

This study was based on the Rogers and Shoemaker (1971) theoretical framework describing the diffusion and adoption of innovations. The strength of their model is that it includes variables relating to an individual's personality characteristics, the relationship of the individual to the social system (such as the

college or department), the strength of the individual's perceived need for the innovation, and the norms of the individual's social system. While others have presented models of the innovation process (Carlson, 1968; Rogers & Jain, 1968; Havelock, 1969; Sarbaugh & Hawkins, 1973), the Rogers and Shoemaker model seemed the most appropriate because of its detail.

Variable Selection and Questionnaire Development

Eighteen variables were selected from the Rogers and Shoemaker model for this study. A self-report questionnaire was developed to measure these variables by asking direct questions about the personal experiences, attitudes, or perceptions of the respondents. Only variables which could reasonably be measured by this technique were included in the study. The questionnaire was pilot tested and modified so that it could be completed in approximately fifteen minutes.

The final questionnaire contained twenty-seven measures for the eighteen variables. Since there were often several ways to operationalize or measure the variables of interest in this study--each highlighting a different dimension of the variable--more than one measure was needed for some of the variables; however, each measure was considered separately in the analysis. The eighteen variables are listed below:

Age. AGE was a self-report by respondents.

Status. Two measures were used for this variable: RANK and TENURE.

Size of teaching load. Two measures were used for this variable: COURSES and TEACHING TIME. Courses was a self-report of the number of different courses taught by the respondent. Teaching time was a self-report of the percentage of time devoted to teaching.

Specialization of teaching responsibility. Three measures were used for this variable: TEACHING ISOLATION, TEACHING SPECIALIZATION, and TEACHING IMPORTANCE. Teaching specialization was a combined measure of the number of courses taught and the uniqueness of those courses. Teaching importance was a self-rating of the relative importance of teaching compared to other activities.

Fatalism. "Fatalism is the degree to which an individual perceives a lack of ability to control his future" (Rogers & Shoemaker, 1971, p. 188). Two measures were used for this variable: TEACHER FATALISM and STUDENT FATALISM. Teacher Fatalism was measured by a self-rating of agreement with a fatalistic statement about good teachers. Student

Fatalism was measured by a self-rating of agreement with a fatalistic statement about good students.

Innovativeness. INNOVATIVENESS was a self-rating on a scale from Rogers (1962, p. 188). This scale provided an indication of when the respondent, compared to colleagues, was most likely to adopt an innovation. An innovator is among the first in a group to adopt new ideas or techniques.

Social participation with departmental colleagues. PARTICIPATION was a self-report of the amount of participation by the respondent in departmental meetings, seminars, social events, etc.

Integration with the social system. "Communication integration is the degree to which the units in a social system are interconnected by interpersonal communication channels" (Rogers & Shoemaker, 1971, p. 188). Three measures were used for this variable: YEARS AT MSU, LOCAL INFORMATION, and LOCAL STYLE. Years at MSU was a self-report which represented the potential for forming the informal communication links necessary to be integrated with college and department social systems. Local Information was a self-report of the frequency of use for local sources of information (those from within the College or department). Local Style was a self-rating of the influence from various local sources on the respondent's teaching style.

Cosmopoliteness. Cosmopoliteness is the degree to which an individual's reference groups, or influences, are from outside the social system. (Rogers & Shoemaker, 1971, p. 189). Two measures were used for this variable. COSMOPOLITE INFORMATION and COSMOPOLITE STYLE. Cosmopolite Information was a self-report of the frequency of use for cosmopolite sources of information (sources from outside the college or department). Cosmopolite Style was a self-rating of the influence from various cosmopolite sources on the respondent's teaching style.

Knowledge about instructional innovations. KNOWLEDGE was a self-rating of the amount of knowledge about instructional innovations possessed by the respondent.

Norms of the importance of teaching. TEACHING VALUE was a rating of the respondent's perception of the importance or value of good teaching for promotion or other rewards within the department.

Norms on innovativeness. FACULTY REACTION was a report on the reaction of faculty in the department to discussions about instructional innovation.

Norms on instructional strategies. TEACHING MODELS was a report on the number of different teaching models used by colleagues in the department.

Resources for instructional improvement. RESOURCES was a rating of the perceived adequacy of resources available in the department for use in improving instruction.

Stability of instruction assignments. TEACHING STABILITY was a report on the frequency of changes in instructional assignments within the department.

Information seeking about instruction. INFORMATION SEEKING was a measure of the frequency of use for both local and cosmopolite information sources.

Opinion leadership. "Opinion leadership is the degree to which an individual is able to informally influence other individual's attitudes or overt behavior in a desired way with relative frequency" (Rogers & Shoemaker, 1971, p. 35). Two measures based on scales from Rogers and Shoemaker (1971, pp. 215-217) were used for this variable: OPINION LEADERSHIP and OPINION LEADERSHIP CHANGE. Opinion leadership was a self-rating of the respondent's own credibility as a source of information with the department. Opinion Leadership Change was a comparison of Opinion Leadership over time.

Membership in modern and/or integrated systems. Several studies had found differences in attitudes, structure, and style among academic disciplines (see Haines, 1974; Lewis, 1967; Peters, 1972). ACADEMIC DISCIPLINE was a classification of the respondent into one of three disciplines: Natural Science (including the Colleges of Agriculture and Natural Resources, Engineering, Human Medicine, Lyman Briggs, Natural Science, Osteopathic Medicine, and Veterinary Medicine); Social Science (including the Colleges of Business, Communication Arts and Sciences, Education, James Madison, Social Science, and Urban Development); and Humanities (including the Colleges of Arts and Letters, Human Ecology, Justin Morrill and University College).

EDP project directors were also asked several questions relating specifically to reasons for seeking EDP assistance and results of their EDP project.

Selection of Respondents

Questionnaires were sent to two groups of faculty at Michigan State. One group included all ninety EDP project directors whose projects were reported in one of the annual compendiums of reports on EDP projects from 1970 to 1975 and whose projects directly affected the instructional process in an undergraduate course. This group is referred to as EDP supported innovators. The other group included a random sample of 250 teaching faculty who were responsible for teaching two or more courses, at least one of which was an undergraduate course. All faculty who had ever directed an EDP project were omitted from this group.

Based on their responses to a question determining involvement in instructional development or innovation during the preceding five years, the random sample of faculty was divided into two smaller groups: unsupported innovators (those who had been involved in instructional innovation without EDP support) and non-innovators.

Data Analysis

Several statistical procedures were used to analyze the data from which a profile of the EDP project directors was developed. These statistical procedures included simple frequency counts, correlations between measures, factor analysis, and chi-squares. In these analyses, data from EDP supported innovators (EDP project directors) were compared with data on the total University faculty provided by the MSU Office of Institutional Research.

To compare the data from EDP supported innovators with the data from unsupported innovators and non-innovators, univariate F-tests and discriminant function analysis were used. Discriminant function analysis is a multivariate analysis procedure which involves generation of a regression equation or function to predict to which of two groups an individual belongs. Those variables which are included in this function (the discriminant function) are those which when taken together are most important in differentiating between the two groups. Completed questionnaires were received from eighty-six percent of the EDP supported innovators and from seventy-five percent of the random sample of teaching faculty.

MAJOR FINDINGS

Five general conclusions were reached on the basis of detailed data analysis. These conclusions along with some of the supporting data are presented in this section. Readers interested in a more detailed discussion of the data analysis are referred to Sachs (1976) for a complete description of the comparison of the

EDP supported innovators, the unsupported innovators, and the non-innovators; and to Davis, et. al., (1976) for the profile of EDP supported innovators.

Conclusion Number 1

EDP supported innovators represented an across-the-board sampling of MSU faculty with regard to age, rank, and college affiliation.

This study found that EDP project directors ranged in age from twenty-seven to sixty-one years, although the distribution was skewed slightly towards the younger faculty members (see Table 1).

TABLE 1

Expected and Observed Frequencies of EDP Innovators by Age

Age	Expected Frequency	Observed Frequency
Under 30	1.77	6
30 - 39	22.64	24
40 - 49	20.13	19
50 - 59	16.32	16
Over 60	7.14	3

*Derived from chi-square analysis of the total University faculty

$\chi^2 = 12.66$, df = 4

Although the differences found were statistically significant ($p < .05$), with more faculty than expected under thirty and fewer than expected over sixty, the other age groups were well represented.

The data on rank showed a similar trend with differences significant at $p < .01$. Instructors and assistant professors had conducted more EDP projects than associate and full professors, but on the whole there was a wide distribution of project directors among the different ranks (see Table 2).

The data on college affiliation of EDP project directors showed a slightly skewed distribution with colleges representing arts and letters having proportionately more innovators, followed by the social sciences and then the natural sciences. These differences, however, were not statistically significant (see Table 3). When the individual colleges were ranked in terms of both absolute and proportionate numbers of EDP project directors, colleges representing the three basic disciplines appear evenly dispersed throughout the rankings (see Table 4).

The findings set forth in Tables 1 - 4 suggest that EDP projects were conducted by all age groups, ranks, and academic disciplines.

TABLE 2

Expected and Observed Frequencies of EDP Innovators by Rank

Rank	Expected Frequency*	Observed Frequency
Instructor	2.55	7
Assistant Professor	13.60	20
Associate Professor	18.89	13
Professor	32.03	27

*Derived from chi-square analysis of the total University faculty

$\chi^2 = 12.83$, df = 3

TABLE 3

Expected and Observed Frequencies of EDP Innovators by College Category

College Category	Expected Frequency*	Observed Frequency
Natural Sciences	32.03	26
Social Sciences	18.22	18
Arts and Letters	17.75	24

*Derived from chi-square analysis of the total University faculty

$\chi^2 = 3.34$, df = 2

TABLE 4

Colleges Ranked by Number of EDP Innovators and Ratio of Number of EDP Innovators to Number of Faculty

Rank	Number of EDP Innovators: College	Number	Ratio of Number of EDP Innovators to Number of Faculty: College	Ratio
1	Agriculture	11	Human Ecology	.0714
2	Arts and Letters	9	Engineering	.0682
3	University College	9	Communication	.0600
4	Education	7	Justin Morrill	.0556
5	Natural Science	7	University College	.0432
6	Social Science	7	Education	.0400
7	Engineering	6	Agriculture	.0397
8	Human Ecology	4	Arts and Letters	.0345
9	Communication	3	Social Science	.0341
10	Veterinary Medicine	2	Veterinary Medicine	.0256
11	Business	1	Natural Science	.0215
12	Justin Morrill	1	Business	.0093

Conclusion Number 2

EDP supported innovators differed on important characteristics in such a way that three different types of project directors could be identified.

A factor analysis of the data from the EDP supported innovators suggested the existence of three basic types of project directors: the reward seeker, the information seeker, and the dissatisfied maverick (see Table 5).

The factor analysis indicated that reward seeking was one of the three forces behind the undertaking of an EDP project. However, only sixteen percent of the EDP supported innovators reported seeking their EDP support for reasons of personal recognition and status and only four percent sought it for rewards such as promotion, tenure or pay raises. Interestingly, however, personal development as a motivating force was reported by sixty-two percent of the respondents.

TABLE 5

Factor Analysis of EDP Innovator Characteristics*

EDP Innovator Characteristics	Factor Loadings		
	TYPE 1 Reward Seeker	TYPE 2 Information Seeker	TYPE 3 Dissatisfied Maverick
Reasons for Seeking the EDP Grant:			
Not satisfied with teaching	.46**	.18	.26
For promotion, tenure or pay	.76**	-.07	-.17
For personal development	.66**	.03	.04
For recognition and status	.80**	.01	-.08
Department chairman's influence	.01	.20	-.34**
Not satisfied with course	.05	.07	.65**
Found increase in positive student ratings after project	.38**	.21	-.41**
Information Seeking before EDP Project:			
Attended MSU workshop	.01	.61**	.17
Attended workshops at other universities	.01	.78**	.11
Read book or article	.02	.57**	-.34**
Consulted people at other universities	.01	.55**	.12
Consulted MSU consultant before EDP project	.16	.23	.35**
Knowledge about innovation	-.08	.43**	.04
Expressed need for having good students to have good class	.06	.32**	-.03
Innovativeness	.07	.33**	.18
Influence of former instructor on current teaching style	.00	-.05	-.33**
Attempted innovation since project	.06	.10	.63**

*Principal component solution after quartimax rotation. Only variables with at least one loading above .30 reported.

**Indicates loadings above .30.

The information seeker was typified by those faculty who attended various workshops or had made contacts with other faculty about teaching prior to seeking their EDP support. There were more EDP supported innovators who reported undertaking these kinds of activities than reported seeking rewards through an EDP project. Fifty-one percent reported reading five or more articles or books on teaching and forty-three percent reported attending two or more workshops on teaching prior to their EDP projects.

The final type of EDP supported innovator was the dissatisfied maverick. General dissatisfaction with their courses and lack of departmental support seemed to provide motivation for some faculty to seek support from EDP to make course improvements. In fact, dissatisfaction with their courses was reported as the reason for seeking EDP support by seventy-two percent of the EDP supported innovators. Fewer than thirty percent reported changes in enrollment, subject matter, or curriculum as reasons for seeking support, which may indicate that the problems leading to the dissatisfaction were considered personal rather than departmental.

It should be pointed out that these percentages are presented for descriptive purposes and do not necessarily represent statistically significant differences between groups. The evidence does not suggest that an individual was clearly only one of the three types of innovators. It is possible that each of the three factors may have contributed to motivating an individual faculty member to seek EDP support.

Conclusion Number 3

There were differences which could be identified between EDP supported innovators and non-innovators in terms of personal and social system characteristics.

Analysis of the data indicated that there were eight statistically significant differences between EDP supported innovators and non-innovators (see Table 6). Innovators differed from non-innovators by showing:

1. greater innovativeness
2. greater integration with the social system
3. greater cosmopoliteness
4. greater information seeking about instruction
5. greater opinion leadership change.

Innovators' perceptions of their departments (their social system) differed from the perceptions of non-innovators by showing:

1. less supportive norms on innovativeness
2. less supportive norms on instructional strategies
3. more stability of instructional assignments.

TABLE 6

Univariate F Tests of Variable Means
for Innovators and Non-innovators

Variable	Innovators Mean	Non-innovators Mean	F
Teaching Models	4.37	6.41	43.42**
Innovativeness	1.60	2.74	37.47**
Cosmopolite Style	10.02	7.29	14.12**
Local Information	3.77	2.91	10.74**
Information Seeking	8.90	7.03	8.68**
Opinion Leadership Change	3.15	2.76	8.66**
Faculty Reaction	3.90	4.52	7.01**
Opinion Leadership	.50	.71	5.07*
Years at MSU	9.71	13.00	5.01*
Cosmopolite Information	5.13	4.12	4.49*
Teaching stability	3.29	3.95	3.98*

*Significant p <.05 **Significant p <.01

N = 110 Degrees of Freedom 1, 108

In addition, the multivariate analysis of the data indicated that the two most important characteristics in differentiating between EDP supported innovators and non-innovators were the faculty member's innovativeness and the faculty member's perceptions of departmental norms on instructional strategies. Together they accounted for forty-four percent of the total variance between EDP supported innovators and non-innovators when the other variables were controlled for. Integration with the social system, on the other hand, though it differed between the two groups, was not an important difference.

Even though differences were found for only eight of eighteen variables, the multivariate analysis used in this study was able to account for sixty percent of the variances within the sample of EDP supported innovators and non-innovators.

Conclusion Number 4

Three groups of faculty could be identified: innovators, early adopters, and non-innovators.

Comparisons were made among the three groups of faculty involved in this study: EDP supported innovators, unsupported innovators, and non-innovators. The comparison of EDP supported innovators and non-innovators was reported in Conclusion Number 3 and showed important differences between these two groups. However, it was also possible to find important differences between the unsupported innovators and the EDP supported innovators as well as between the unsupported innovators and the non-innovators. The nature of these differences led to the conclusion that there were three groups of faculty.

Unsupported innovators compared with EDP supported innovators

A comparison of the EDP supported innovators with the unsupported innovators indicated that these two groups of innovators were not alike. The EDP supported innovators were more innovative and cosmopolite (had influence from outside their department), less fatalistic (felt lack of ability to control one's future) and had less opinion leadership than the unsupported innovators. With respect to perceptions of their departments, the EDP supported innovators reported less supportive norms on instructional strategies, fewer resources for instructional improvement, and more stability of instructional assignments than unsupported innovators (see Table 7).

TABLE 7

Significant Univariate F Tests of Variable Means for EDP Innovators and Unsupported Innovators

Variable	EDP Innovators Mean	Unsupported Innovators Mean	F
Teaching Models	4.37	6.56	43.92**
Opinion Leadership	.50	.83	15.44**
Innovativeness	1.60	2.13	10.13**
Resources	2.67	3.38	7.26**
Cosmopolite Style	10.02	8.25	6.45*
Teacher Fatalism	2.88	3.52	4.85*
Teaching Stability	3.29	3,98	4,53*

*Significant at $p < .05$ **Significant at $p < .01$

N = 115 df - 1, 113

The multivariate analysis indicated that of the seven variables which differed between the two groups of innovators, norms on teaching strategies, opinion leadership, and innovativeness were the most important in differentiating between these groups.

Examined as a whole, the difference between the two groups of innovators can be explained in terms of the differences Rogers and Shoemaker identify between innovators and early adopters. Early adopters are those who adopt innovations after the innovators, but before the average members of the group. Innovators are described as more innovative and cosmopolite, seek more information, and are less a part of their social system than other adopters (1971, p. 183). Early adopters are described by Rogers and Shoemaker as:

> . . . more integrated /a/ part of the local social system than are innovators . . . . This adopter category, more than any other, has the greatest degree of opinion leadership in most social systems . . . (p. 184)

The unsupported innovators in this study did appear more integrated in their social systems in terms of opinion leadership (opinion leadership is related to integration according to Rogers and Shoemaker), and *that the social system appears to provide support for that individual in terms of both norms and resources which support innovation.*

Unsupported innovators compared with non-innovators

The unsupported innovators were also compared with the non-innovators. This analysis indicated that four of the variables differed statistically between the unsupported innovators and non-innovators. The unsupported innovators had more: innovativeness, information seeking about instruction, integration with the social system, and opinion leadership than the non-innovators (see Table 8).

It was possible to use the procedures of discriminant function analysis to classify respondents as EDP supported innovators, unsupported innovators, or non-innovators (comparing two groups at a time). This finding provided additional support for the conclusion that three groups of faculty exist.

Conclusion Number 5

EDP supported innovators perceived that their departments did not provide sufficient financial and/or psychological support for instructional innovation.

These data implied that both financial and psychological support are necessary for innovations to be adopted. While the EDP

TABLE 8

Significant Univariate F Tests of Variable Means for Unsupported Innovators and Non-innovators

Variable	Unsupported Innovators Mean	Non-innovators Mean	F
Innovativeness	2.13	2.74	10.93**
Information Seeking	8.94	7.03	10.24**
Local Information	3.75	2.91	10.61**
Opinion Leadership Change	3.02	2.76	3.99*

*Significant at $p < .05$ **Significant at $p < .01$

N = 121 df = 1, 119

supported innovators may have had some minimal psychological support from within their departments even though norms of the department generally did not support instructional innovation and they were apparently not recognized as opinion leaders regarding instruction, they had less than the unsupported innovators. Need for more than this minimal amount of support, therefore, may account for the EDP supported innovators being more cosmopolite--making use of outside reference groups for psychological support. Financial support was, of course, provided by EDP. The unsupported innovators came from departments whose norms *and* resources provided more support for instructional innovations (as indicated by the differences noted between EDP supported innovators and unsupported innovators).

Based on correlational data on the value of teaching in the departments of the EDP supported innovators, it is possible to identify some departmental characteristics which tended to support innovation even though the perceived amount of this support may not have been sufficient in the cases of the EDP supported innovators (see Tables 9 and 10). Among these characteristics were:

1. Department valued teaching for promotion, pay, or rewards.
2. Department provided some (but not enough) resources for improving teaching.
3. Departmental faculty were receptive to instructional innovations.
4. Some curriculum changes were likely to be fermenting.

5. The department chairman was perceived as influential in and supportive of teaching improvements.
6. The individual innovator, in such a department consulted with his colleagues as a routine matter.

TABLE 9

Pearson Product Moment Correlations between Value of Teaching in the Department and Selected Departmental Variables

Value of teaching for promotion, pay, or reward correlated with . . .	Correlation coefficient*
consulting with colleagues in department	.29
importance of teaching to the individual	.42
innovating because of influence from the department chairman	.30
resources available in the department to improve instruction	.41
positive reaction of the faculty to innovation	.31
influence on teaching style by colleagues in department	.41
innovation considered successful by colleagues in department	.40

*Significant at $p < .01$

TABLE 10

Pearson Product Moment
Correlations between Positive Reaction of Faculty
to EDP Innovation and Selected Variables

Positive reaction of faculty to innovation correlated with . . .	Correlation coefficient*
seeking information from contacts at other universities	.29
innovating because of influence from department chairman	.37
innovating because of changes in curriculum	.30
resources available in department to improve instruction	.44

*Significant at $p < .01$

IMPLICATIONS OF THIS STUDY

There are a number of implications which can be drawn from being able to identify the differences between innovators and non-innovators. First, identifying whether an individual is more likely an innovator, early adopter, or non-innovator should be useful in program evaluation and management because it makes it possible to determine whether efforts and resources are being spent on the desired target audience--innovators, early adopters, or non-innovators.

Second, it should be possible to use the information about how innovators differ from non-innovators to devise strategies to support or increase the adoption of innovations. Strategies to increase the adoption of innovations would attempt to change a faculty member's characteristics or perceptions of their departments similar to the characteristics and perceptions of innovators or early adopters. For example, since innovators sought more information about teaching and learning than non-innovators, a strategy might be devised which rewards or encourages information seeking by individual faculty or which makes information seeking easier by increasing the number of magazines or newsletters circulated to faculty. Such strategies, however, would be based on the assumption that there exist cause-effect relationships between those variables and adopting innovations or becoming an innovator.

Third, this study resulted in the contradiction of several myths about faculty participation in voluntary educational development programs. It has often been thought that instructional innovators were primarily the younger, more energetic and the older, more established, somewhat dissatisfied professors. The data from this study showed that all age groups were well represented.

In addition, this study casts serious doubt on the belief that instructional innovation is limited to certain academic disciplines. It was found that faculty from across the entire University had sought and received support from EDP.

However, EDP reached primarily the innovators, even though they represented a wide cross-section of demographic characteristics. EDP generally did not directly reach those faculty who were most integrated in their social systems and/or who were opinion leaders (the early adopters), and it did not reach those least integrated in their social systems (the non-innovators). Therefore, the effects of the projects in such a program would be less likely to influence faculty members not involved in the project, and would be less likely to spread rapidly throughout the institution --especially to those not well integrated within that institution.

There are indications, though, that the opinion leadership of innovators increased following the adoption of an innovation. Forty-eight percent of the EDP supported innovators reported that, prior to their EDP projects, their colleagues considered them "good sources" of information on teaching and learning. After their projects, eighty-one percent felt they were considered "good sources."

This change suggests that over a *longer* period of time the innovators would have an influence on their colleagues. The nature of this influence and how long it takes to develop remain unclear.

Fourth, the data from this study showed that the adoption of innovations is closely related to departmental support given a faculty member. The adoption of innovations appears dependent on faculty perceiving that there is both financial and psychological support. If this support cannot be obtained from the faculty member's department, it must be provided from outside--using outside funding sources and increasing the cosmopoliteness or outside contacts of these individuals.

When it is possible to change the department's norms and resources to be more supportive of innovation, adoption of innovations will probably be more widespread and will not require as much additional outside support. In this case, EDP efforts would be directed to influencing the social system and possibly to making individuals more like early adopters--increasing their opinion leadership or their integration with the social system.

Where it is not possible to influence the social system easily or where it is more important to have a few individuals adopt innovations quickly, maintaining the individual's integration with the

social system would be less important. In this case, helping the individual to become an innovator would be appropriate. In fact, the first step in influencing the norms of some social systems may be to introduce a number of innovations quickly. In this case, EDP support of innovators would be of greatest importance.

Finally, and perhaps the most important implication of this study is that the impact of a faculty member's department or social system may be limited to facilitating innovation rather than being able to actually motivate that individual to undertake an EDP project. The principal motivating factors reported in this study centered on personal satisfaction and growth. Few of the EDP supported innovators undertook their projects as a means of coping with changes in their environment, i.e., increased enrollment, or as a means of achieving tangible rewards. This makes it difficult to predict demand for EDP support based on changes in the University or on strategies which attempt to alter the reward or influence systems. *It also suggests that educational development efforts may have greater influence when satisfaction and growth are stressed rather than when the emphasis is on relative advantages or rewards of a particular innovation.*

In sum, the findings of this study confirmed the importance of an individual's social system in the innovation process and identified specific variables which differentiate between those who are more receptive to innovation and those who are less receptive. This information can provide a basis for strategy development and for program evaluation. Furthermore, the data indicated that educational development programs based on voluntary faculty initiative, such as that at MSU, provide support to faculty who do not receive it from their departments and reaches across all ages, ranks, and academic disciplines.

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