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WHAT ARE INNOVATORS LIKE. CHAPTER 4, CHANGE PROCESSES IN THE PUBLIC SCHOOLS.

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CHARACTERISTICS OF INNOVATORS ARE DISCUSSED WITH SPECIAL REFERENCE TO THE PROCESS OF SOCIAL CHANGE. ABOUT 2.5 PERCENT OF THE EDUCATIONAL ADMINISTRATORS TEND TO BE INNOVATORS. SIX GENERAL CHARACTERISTICS OF INNOVATORS ARE LISTED--(1) THEY ARE GENERALLY YOUNG, (2) THEY HAVE RELATIVELY HIGH SOCIAL STATUS IN TERMS OF AMOUNT OF EDUCATION, PRESTIGE RATINGS, AND INCOME, (3) IMPERSONAL AND INFORMED SOURCES OF INFORMATION ARE IMPORTANT TO THEM, (4) THEY ARE COSMOPOLITE, (5) THEY EXERT OPINION LEADERSHIP, AND (6) THEY ARE LIKELY TO BE VIEWED AS DEVIANTS BY THEIR PEERS AND BY THEMSELVES. FOUR IMPLICATIONS FOR SCHOOL ADMINISTRATORS ARE SUGGESTED--(1) THERE IS A HIGH DEGREE OF RELATIONSHIP BETWEEN THE FINANCIAL RESOURCES OF A SCHOOL SYSTEM AND ITS INNOVATIVENESS, (2) THE SOCIAL CHARACTERISTICS, SOCIAL RELATIONSHIPS, AND COMMUNICATION BEHAVIOR OF THE MEMBERS OF THE SCHOOL STAFF ARE RELATED TO THE INNOVATIVENESS OF THEIR SCHOOL SYSTEM, (3) SCHOOL SYSTEM POLICIES MAY AFFECT THE INNOVATIVENESS OF THE TEACHER, AND (4) THE ABSENCE OF AGENTS THAT PROMOTE CHANGE MAY BE A FACTOR IN THE RELATIVE SLOWNESS WITH WHICH SCHOOLS ADOPT INNOVATIONS. THE COMPLETE DOCUMENT, "CHANGE PROCESSES IN THE PUBLIC SCHOOLS," IS AVAILABLE FROM THE CENTER FOR THE ADVANCED STUDY OF EDUCATIONAL ADMINISTRATION, UNIVERSITY OF OREGON, EUGENE, OREGON 97403, FOR $2.00. (HW)

Change Processes in the Public Schools

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Change Processes in the Public Schools

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Foreword

Organizations have careers in much the same sense that individuals have careers. In the tracing out of organizational careers, a number of changes can always be detected, even among the seemingly most stable organizations.

Change in organizations comes about in many ways. Some changes occur with the size of the organization and some changes occur with the maturation process. Also, organizational change results, sometimes dramatically but most often not, from the succession of people through key offices. Similarly, a kind of evolutionary change in organizations can be seen as they adapt to forces within or conditions of their environments. To some extent, changes of this order can be called "organizational drift" because they frequently go unnoticed by those who direct the affairs of an organization. The effect of these rather gradual changes are almost imperceptibly viewed over a short time span but sometimes loom large when the overall career of the organization is considered.

In addition to organizational change that might be characterized as drift, change comes about in organizations by design or deliberate plan. Being seemingly "self" conscious about ends to be achieved and means of achieving ends, organizations strive for survival, if not perfection, and seem constantly to be proposing and carrying out change plans. It is this latter type of change, *planned change*, which is treated in this publication.

This publication is a report of a seminar conducted with public school officials by the Center for the Advanced Study of Educational Administration at the University of Oregon. The seminar, considered a pilot venture, had as its main objective the enhancement of the school officials' understanding of the planned change processes and of their skills in carrying out planned change. In formulating the design of the seminar we were aided by members of the Committee on Inservice Education of the Oregon Association of School Administrators. Some changes in the order and nature of events were made while the seminar was in progress; these changes resulted from the almost continuous conversation with the consultants and other interested persons on the question, "How are things going?"

The seminar, held in Portland, Oregon in October, 1964, revolved

around two major elements: (1) small group discussions of papers prepared for the seminar by four consulting social scientists, and (2) what were termed "clinic sessions." These sessions brought the school officials and the social scientists together in small groups where attention was given to specific change problems that had been, and were being encountered by the school officials. In advance of the clinic sessions, the school officials prepared memoranda of their specific problems.

All of the events of the seminar are not reported here, nor does the order of the contents of this publication follow the order of the seminar itself.[1]

The publication includes three of the four papers prepared for the seminar by the consulting social scientists—those by Matthew B. Miles, Art Gallaher, Jr., and Everett M. Rogers. Unfortunately we were unable to secure publication rights to the paper by James Q. Wilson and consequently his work does not appear here. The papers by Richard O. Carlson and Roland J. Pellegrin, although they were read during the seminar, were not part of the grist for the mill in the clinic and discussion sessions. It will be noted that the papers of these latter two contributors present different perspectives on planned change from those contained in the papers by the consultants and in the summaries of the group discussions.

The final section of this publication is a summary of the seminar itself which was made by Donald E. Tope at its concluding session.

Some financial aid for the seminar was provided by the National Institute of Mental Health of the Department of Health, Education, and Welfare. Our indebtedness extends also to the University Council for Educational Administration for the aid which was provided through its Executive Director, Jack Culbertson. Although they are unnamed here, many persons contributed a variety of talents to the task of the seminar and their efforts are gratefully acknowledged.

RICHARD O. CARLSON
KEITH GOLDHAMMER
Seminar Coordinators

February, 1965
UNIVERSITY OF OREGON, Eugene, Oregon

[1] Although absent from this publication, a discussion of *The Jackson County Story* was included in the seminar. This case study exists in published form and may be obtained from the Center for the Advanced Study of Educational Administration, University of Oregon. (*The Jackson County Story, A Case Study*, by Keith Goldhammer and Frank Farner. University of Oregon, Center for the Advanced Study of Educational Administration, 1964.)

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By
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What Are Innovators Like?

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INNOVATORS ARE the first members of a social system to adopt new ideas.[1] Research studies of farmers, school administrators, industrial firms, and aborigines indicate that they are not always the most respected members of their social system. They prefer venturesomeness to the respect of their peers, who call them "starry-eyed," "experimenters," or people with their "heads in the clouds."[2] Because of their important role in fostering change and their prominence among their peers, innovators are of both theoretical and practical interest. In fact, I would maintain that an understanding the behavior of innovators is essential to a comprehension of the central processes of social change.

PURPOSE

The objective of the present paper is to isolate the characteristics of innovators with special reference to the process of social change. First, however, we must give some attention to how innovators are selected from a total audience that also contains non-innovators.

WHO ARE INNOVATORS?

A great variety of different terms[3] have been used in past research for innovators . . .

Pioneers
Lighthouses
Advance scouts

[1] Certain ideas in the present paper are similar to Everett M. Rogers, "What Are Innovators Like?" *Theory Into Practice*, 2:252-256, 1963.

[2] Ross, Donald H. (editor), *Administration for Adaptability*, New York: Metropolitan School Study Council, 1958, p. 21. The quoted references are among terms listed by Ross as "only mildly complimentary."

[3] These terms are taken from a review of past research in Everett M. Rogers, *Diffusion of Innovations*, New York: The Free Press of Glencoe, 1962, pp. 150-151.

Progressists
Non-Parochials
Experimentals
Cultural *Avant-garde*

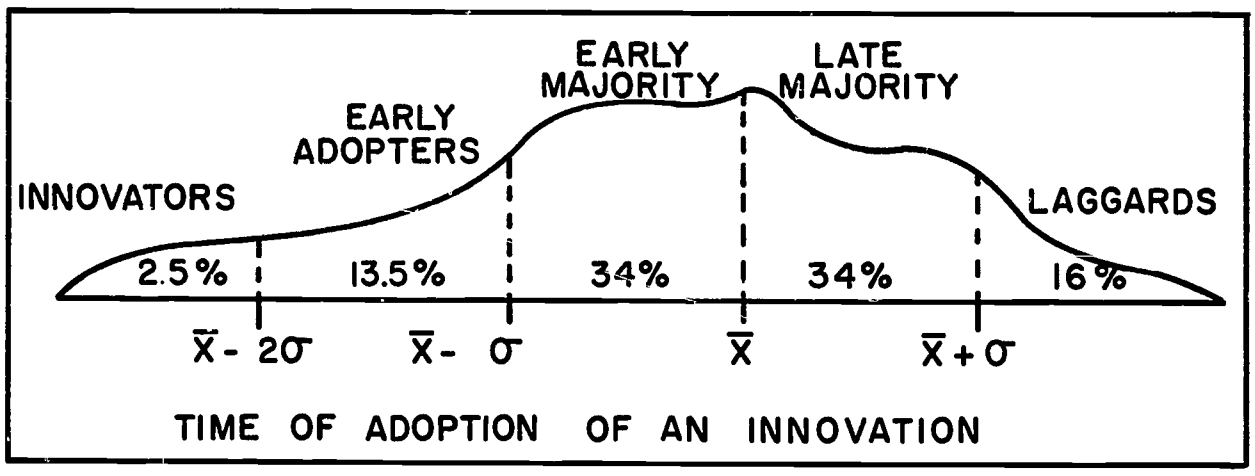
Whatever they are called, there is need for a standard definition of what an innovator is. Because adopter distributions usually appear to approximate a normal, bell-shaped curve over time, I have elsewhere[4] suggested that our standard means of categorizing innovators is to regard them as the first 2.5 per cent of an audience to adopt a new idea. This means they are to the left of the mean ($\overline{X}$) time of adoption minus the standard deviations ($\overline{O}$). Figure 1 shows the position of innovators on the normal adoption curve.

Time-Span of Adoption

Even though the distribution of the adopters of a new idea over time appears to closely approach normality in the cases subject to past

Figure 1

Innovators as the First 2.5 Per Cent to Adopt a New Idea.



research, the rate of adoption has been found to vary widely in terms of years or some other time-unit. In other words, the period of years from first to last adoption (from extreme left to extreme right in Figure 1) varies widely.

Mort emphasized the relative slowness with which educational practices were adopted by school systems.[5] He found the average school

[4] *Op. cit.*, p. 162.
[5] Paul R. Mort, *Principles of School Administration*, N.Y., McGraw-Hill, 1946, pp. 199-200.

". . . lags 25 years behind the best practice." This 50 year time period from first innovator to last laggard may well be a function of the educational practices selected for study, the units of analysis (public high schools), and/or the time of the study (the late 1930's and 1940's). Some educational practices certainly spread more rapidly today. For example . . .

1. Allen compared the diffusion of driver training, an innovation promoted by safety groups and car dealers, with the idea of pupils studying their community.[6] Sixty years were required for this idea to reach 90 per cent adoption among 168 U. S. schools while only 18 years were needed for driver training to reach this level of adoption.

2. Carlson found that "modern math" only required five years to reach about 90 per cent adoption by 43 school superintendents in Allegheny County, Pennsylvania.[7]

In any event, while exact comparison is rather difficult (how equivalent is 2,4-D weed spray to language laboratories to antibiotic drugs?), it appears that our schools change more slowly than our farms, our medical doctors, or our industries. Later in this paper we shall return to discussion of this time-span comparison in terms of implications for school administrators.

Let us first look at what we know about innovators.

A Word-Picture of the Innovator

Although, for the present paper, I have drawn primarily on research on the diffusion of innovations in such diverse fields as rural sociology, industrial engineering, and anthropology, I have featured findings on educational innovators when such data are available.

Innovators are venturesome individuals; they desire the hazardous, the rash, the *avant-garde*, and the risky. Since no other model of the innovation exists in the social system, they must also have the ability to understand and use complex technical information. An occasional debacle when one of the new ideas adopted proves to be unsuccesssful does not disquiet innovators. However, in order to absorb the loss of an unprofitable innovation, they must generally have control of substantial financial resources.

Their propensity to venturesomeness brings them out of their local circle of peers and into more cosmopolite social relationships. Even when the geographical distance between them may be considerable,

[6] Harley Earl Allen, *The Diffusion of Educational Practices in the School System of the Metropolitan School Study Council*, D.Ed. Thesis, N.Y., Teachers College, Columbia University, 1956.

[7] Richard O. Carlson, "School Superintendents and Adoption of Modern Math: A Social Structure Profile," in Matthew B. Miles (ed.), *Innovation in Education*, N.Y., Teachers College, Columbia University, Bureau of Publications, 1964, p. 333.

they often have been found to form cliques. They spread new ideas as their gospel.

The description of innovators is sharpened by contrast to that of laggards, who are the last to adopt an innovation (Figure 1). Laggards are localistic; many are near-isolates. Their point of reference is the past, and they interact primarily with those peers who have traditional values like theirs. Laggards tend to be frankly suspicious of innovations, innovators, and change agents. When laggards finally adopt an innovation, it may already be superseded by another more recent idea which the innovators already are using. While innovators look to the road of change ahead, the laggards gaze at the rear-view mirror.

Generalizations

Perhaps a meaningful way to more precisely "boil down" the salient characteristics is in terms of a series of generalizations.

1. *Innovators generally are young.* Since the young are less likely to be conditioned by traditional practices within the established culture, there are theoretical grounds for expecting them to be more innovative. Research studies on farmers provide actual evidence that innovators are younger than their peers who are later adopters.

2. *Innovators have relatively high social status, in terms of amount of education, prestige ratings, and income.* Affluence may be indicated by a high income, by ownership of a large-sized operation, or by possession of wealth. Ross reviewed a number of studies dealing with the diffusion of educational ideas among public schools. He concluded that the wealth factor was the one variable most closely related to adoption of innovations.[8]

3. *Impersonal and cosmopolite sources of information are important to innovators.* At the time innovators decide to use a new idea, few members of their social system have had experience with it. As a result, innovators must secure new ideas through impersonal sources, such as the mass media, and from cosmopolite sources, or from outside the social system. Coleman and others found that physicians who innovated were more likely to attend out-of-town medical meetings.[9] Carter and Williams found that innovative industrial firms were more likely to seek new ideas from university researchers.[10]

4. *Innovators are cosmopolite.* The cliques and formal organizations to which they belong are likely to include other innovators. They travel widely and participate in affairs beyond the limits of

[8] Ross, *op. cit.*, p. 119.

[9] Coleman, James, Katz, Elihu, and Menzel, Herbert, "The Diffusion of an Innovation among Physicians," *Sociometry*, 20:253-67, 1957.

[10] Carter, C. F., and Williams, B. R., *Industry and Technical Progress*, London; Oxford University Press, 1957.

their system. Ryan and Gross found that hybrid-corn innovators traveled more often to urban centers, such as Des Moines, than did later adopters.[11] Carter and Williams found that in innovative industrial firms "There is extensive world-wide travel by executives, and a lively interest in progress at home and abroad . . ."[12] Ross reported that teachers at more innovative schools usually acquired new educational ideas from outside their community.[13] Goldsen and Ralis found that Thailand farmers who innovate visited Bangkok.[14]

5. *Innovators exert opinion leadership.* Because of their prior experience, innovators obviously are in a position to influence the adoption decision of their peers. Several studies have shown, however, that the norms of the social system may act as an intervening variable between innovativeness and opinion leadership. For example, in communities where the norms were traditional, innovators were not looked to by their peers as sources of information and advice.[15]

6. *Innovators are likely to be viewed as deviants by their peers and by themselves.* Research studies show that farmers who innovate are perceived as deviants from the norms of the social system.

An Ohio study asked what their neighbors thought of their farming methods.[16]

"Sometimes they shake their heads,"
"Fifty per cent *think* I am crazy;
the other 50 per cent are *sure* I am."

Thus, as Thoreau might observe, innovators are in step with a different drummer than their peers; they march to different music.

A composite word-picture of the innovator as represented by the school system is provided by Kumpf:

> "An adaptable school tends to be located in a community which has many people represented in the white-collar or professional occupations, has a high percentage of owner-occupied dwellings, and has many inhabitants 50 years of age or older. It tends to be high in per capita wealth, per pupil expenditure for education, per cent of 8th grade, high school, and college grad-

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[11] Ryan, Bryce, and Gross, Neal C., "The Diffusion of Hybrid Seed Corn in Two Iowa Communities," *Rural Sociology*, 8:15-24, 1943.

[12] Carter, C. F., and Williams, B. R., "The Characteristics of Technically Progressive Firms," *Journal of Industrial Economics*, 7:97, 1959.

[13] Ross, *op. cit.*

[14] Goldsen, Rose K., and Ralis, Max, "*Factors Related to Acceptance of Innovations in Bang Chan, Thailand*," Southeast Asia Program Data Paper 25, Ithaca, New York; Cornell University, 1957.

[15] Marsh, C. Paul, and Coleman, A. Lee, "Farmers' Practice-Adoption Rates in Relation to Adoption Rates of 'Leaders'," *Rural Sociology*, 19:180-81, 1954.

[16] Rogers, Everett M., "*Characteristics of Innovators and Other Adopter Categories*," Research Bulletin 882, Wooster, Ohio Agricultural Experiment Station, 1961.

uates. A fairly high median (educational level) has been attained by those who are 25 years of age and older in the community. A low percentage of the population is foreign born. It has a high level of understanding of what schools can do. This community is part of a super community which offers many cultural advantages and which contains other schools interested and actively engaged in promoting more adaptable schools.[17]

Implications for Research

Perhaps one implication of the present paper for educational research is that there is not enough of it. Undoubtedly one reason for the relative slowness of educational adoption when compared with agriculture, medicine, or industry is the absence of scientific sources of innovation in education. Chemical companies and the vast network of agricultural experiment stations provide accurate measurements under controlled conditions for a new idea. Farmers, as a result, develop credibility for agricultural research as a source of innovations. Education, on the other hand, has only campus or university schools, and those classes in the nation's schools willing to cooperate in experimentation. Here, first responsibility is to the student, not to research. And the results of educational research are often ambiguous, incomplete and confusing.

I would argue that in conjunction with research to develop educational innovations, we need study of how these new ideas spread and are adopted. Our past research in educational diffusion has been rather unimaginative, and has been the almost sole property of one university. Few studies have been completed with teachers (only one such study was encountered in a search of the literature) as the unit of adoption, and only one study of school superintendents, in spite of their importance in school adoption decisions.

Implications for School Administrators

Research findings reported in the present paper furnish several implications for school administrators.

1. A high relationship has been found between the financial resources of a school system and its innovativeness. In fact, outstandingly innovative school systems are usually located in particularly wealthy communities.[18] At the same time, however, it is important to remember that not *all* rich schools are innovators and that not *all* schools that innovate are rich. The community's attitude about providing support for the school's costs is obviously an important inter-

[17] Kumpf, Carl H., *The Challenge of Studies of Adaptability to an Elementary School in a Large City*, D.Ed. Thesis, Teachers College, Columbia University, 1949, pp. 13-15.

[18] Although this is not always true, as Carlson (*op. cit.*, p. 340) has demonstrated. He found a correlation of —.02 between time of adoption of modern math and annual school expenditure per pupil.

vening variable between community wealth and school innovativeness.

As Pelley pointed out, "Unfortunately, there seems to be no possible profit motive in being an educational innovator."[19] The primary motive for more innovative schools must come through the community's desire for more effective learning by their children. However, the amount that learning increases as a result of adopting innovations is difficult to measure. Nevertheless, wherever possible, school administrators should emphasize to the community the results of benefits of educational innovations.

2. The social characteristics, social relationships, and communication behavior of the members of the school staff undoubtedly relate to the innovativeness of their school system. Administrators may create an innovative staff by choosing teachers, possibly young, with breadth of training and cosmopolite sources of information and travel patterns.

3. As the teacher may affect the innovativeness of the school system, so the school system, through its policies, may affect the innovativeness of the teacher. It has been found, for example, that teachers who attend out-of-town educational meetings are more innovative. This suggests that sending teachers to workshops, conferences, and lectures, where they may be exposed to new educational methods, may be a wise investment.

4. The absence of agents that promote change may be a factor in the relative slowness with which schools adopt innovations. Certainly the relatively more rapid adoption of farm innovations is related to the activities of the county extension agent and the agricultural salesman—both important links between agricultural research and the farmer.

The crucial role of school administrators in causing a school to be more or less innovative warrants special emphasis. Innovative school administrators might be expected to maintain close contact with laboratory or experimental schools and with universities through enrollment in graduate work or attendance at conferences and workshops. Demeter concluded, "Building principals are key figures in the process. Where they are both aware of and sympathetic to an innovation, it tends to prosper. Where they are ignorant of its existence, or apathetic if not hostile, it tends to remain outside the blood stream of the school."[20]

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[19] J. H. Pelley, *Invention in Education*, D.Ed. Thesis, N.Y. Teachers College, Columbia University, 1948, pp. 170-171.

[20] Demeter, Lee H., *Accelerating the Local Use of Improved Educational Practices in School Systems*, D.Ed. Thesis, Teachers College, Columbia University, 1951, p. 23.