A DESIGN FOR A GROUP INCENTIVE REWARD PLAN IN THE ELEMENTARY SCHOOL

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This is to certify that the

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ABSTRACT

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By

James Lee Honchell

This study was undertaken for the purpose of generating a group incentive model appropriate for adaptation at the elementary school level. Rationale for the structural characteristics of the model is based upon research and authoritative opinion cited in the text of this thesis. Three basic areas of investigation were designated by the writer as relevant to the development of such a model. The areas so designated include: (1) teacher merit rating--its historical development, applications in public education, and present status; (2) the evaluation of teacher effectiveness--its historical development, application in public education, and present status; and (3) the examination of selected aspects of group dynamics. Included in this analysis are the reported effects of group rewards on group behavior, comparisons of the behaviors displayed by group members in instances of intragroup cooperation and competition, and the relationships between group rewards and group productivity or effectiveness.

The descriptive presentation of each characteristic of the incentive model is accomplished within the context of

the cited rationale for the given characteristic. A possible application of the plan is provided in the form of a data sheet pertaining to a hypothetical elementary school at which the incentive plan has been implemented.

The incentive model is partially dependent upon a specific cultural assumption. The assumption being, that in our society money is meaningful--money possesses cultural significance. Financial rewards may thus be viewed as providing the means by which man's materialistic needs and, to varying degrees, certain of his psychological needs may be met.

The literature has suggested that merit rating plans attempted in the educational sphere have been structured to provide for the allocation of rewards on the basis of individual teacher performance. This method of reward allocation has tended to result in conflict due to the induced competition among teachers for the rewards. Subjective methods of teacher evaluation for reward purposes have been the recipients of much criticism. Teacher merit rating plans have, in general, met with limited success. When applied in public school settings, merit plans have suffered a high rate of abandonment.

The allocation of merit incentives is dependent upon a process of teacher evaluation. The evaluation of teacher effectiveness has been restricted by a lack of the development of sophisticated and accurate evaluative methodology.

This arrested development is partially due to the failure of a generally accepted definition of teaching to emerge. Lacking an acceptable definition of teaching, criteria for teaching effectiveness have not evolved. The vast majority of the evaluative procedures have been, and continue to be, directed toward subjective evaluator judgements pertaining to teacher behavior and teacher characteristics. This process is accomplished with only limited evidence as to which characteristics or behaviors result in realization of the school's goals.

Approaches to the evaluation of teacher effectiveness which are viewed by several authorities as desirable, and yet difficult to accurately accomplish, are those of evaluation in terms of measured pupil-growth and evaluation based on pupil-achievement level. The influences of other teachers, parents, environment, and peers on student performance have been identified as obstacles in the accurate determination of individual teacher contributions. Objective evaluation of teacher effectiveness in terms of pupil outcomes is further hindered by the questionable validity and reliability of available instruments of measurement. The instruments generally viewed as most valid and reliable are those designed to measure student achievement in certain basic skill areas, such as reading and mathematics.

Selected sociological and social psychological research has provided evidence which tends to support reward

allocation on a criterion of group performance. It has been shown that group incentives may influence various aspects of intragroup interaction, and that these interaction factors affect group effectiveness. The allocation of rewards to individual group members in equal amounts on a criterion of total-group performance has been found to result in increased cooperation among group members. Cooperation has been shown to possess a direct relationship with, and be a determinant of, the degree of cohesiveness within a group. The degree of cohesiveness within a given group has been found to correlate positively with the level of effectiveness or amount of productivity displayed by the group.

Groups functioning in situations of intragroup cooperation among members have been found to generally perform at higher levels of effectiveness than groups functioning in situations of intragroup competition among members.

The writer has attempted to incorporate those aspects of teacher merit rating, teacher evaluation, and group dynamics which appear most appropriate, in the development of a theoretically functional group incentive model. The salient characteristics of the resultant model include the following:

1. The elementary school is the unit which is evaluated and the unit to which incentive rewards are allocated.

2. All professional, and designated non-professional, staff members of a given school are eligible for incentive rewards.

3. Qualification for reward is dependent upon a school's evaluated level of effectiveness.

4. The level of a school's effectiveness is determined by placement on district-wide rankings on designated pupil-achievement and pupil-perception variables.

5. The reading and mathematics sections of a standardized test battery such as the Sequential Tests of Educational Progress are designated as the instruments for measurement of pupil achievement. These tests are administered to all third and sixth-grade students within the given school district.

Tests such as the teacher and principal sections of the Student Questionnaire are designated for measurement of student perceptions of teacher and principal expectations. These instruments are to be administered to all students, grades three through six. A locally developed non-verbal adaptation of such a test is to be administered to all students grades kindergarten through two.

6. Equalization factors, based on comparative levels of prior pupil achievement in reading and mathematics are computed for each elementary school within a district. These factors are dependent upon pupil-achievement comparisons between the local elementary school characterized by the greatest proportion of high socio-economic pupil composition and the remaining schools within the district.

7. The annual, measured pupil-performance mean, added to the computed equalization factor, determines a

school's total mean achievement score on a given achievement variable. Student perceptions scores are reported in terms of a computed mean score for a given school.

8. All elementary schools within a given district are ranked by mean score on each of the designated variables. Incentive rewards are allocated to personnel of those schools placing in the fourth quartile on district-wide rankings on a given variable. The staff of each elementary school may thus be eligible to receive a maximum of three incentive rewards annually.

9. Incentive reward dollar amounts for professional personnel are designated as a stipulated percentage of the average annual teachers salary in the given district. All professional personnel in a school which qualifies for incentive reward on a given variable or variables receive equal dollar amounts.

Non-professional personnel in qualifying schools receive some portion of the average annual salary for their specific job classification.

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CHAPTER I

THE PROBLEM

Statement of the Problem

The application of the single salary schedule by school districts in the United States is currently a pervasive practice. The National Educational Association has reported that by 1957, ninety-seven percent of the city school districts surveyed, functioned under single salary schedules.[1]

The typical, basic single salary schedule differentiates teacher salaries on the basis of formal preparation, in terms of college credit hours, and experience, in terms of the number of years teaching.

This type of reward structure contains no provision for allocation of salary on the basis of effectiveness. Thus, any possible motivation which may result from reward for effectiveness is restricted.

Attempts to reward teachers through use of various merit plans have produced a great deal of controversy. While many favor the principle of reward for superior results, they

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[1]National Education Association, Research Division, Salaries and Salary Schedules of Urban School Employees, 1956-57, Research Bulletin 35 (Washington, D. C.: The Association, 1957), p. 68.

also feel this concept cannot be equitably put into practice. The divisive aspects of competition among teachers for rewards and the controversial means for determining superior teachers have emerged as major criticisms of teacher merit plans.

A review of the literature on teacher merit rating failed to produce any documented attempt to reward teachers on the basis of their effectiveness as a building unit or any other kind of group structure.

The National Education Association reported in 1969 that of 1199 teacher salary schedules analyzed in their survey, only 11.1 percent mentioned compensation for superior service. The report made no reference to any type of teacher group incentive.[2]

The general public continues to express a concern that teachers and administrators be held accountable for the achievement of students. Evidence of this concern is found in the results of a recent study, designed to measure the attitudes of the American public toward public schools, conducted by Gallup.[3]

Included in the survey were items pertaining to

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[2]National Education Association, Research Division, Merit Provisions in Teachers' Salary Schedules, 1968-69, Research Report 1969-12 (Washington, D. C.: The Association, 1969), p. 1.

[3]George Gallup, "Second Annual Survey of the Public's Attitude Toward the Public Schools," Phi Delta Kappan, 52 (October, 1970), 97-112.

accountability: "Would you favor or oppose a system that would hold teachers and administrators more accountable for the progress of students?" A total of 67 percent of the respondents expressed favor, 21 percent were opposed, and the remaining 12 percent expressed no opinion.[4]

Gallup posed an additional item which was more directly related to teacher effectiveness: "Should each teacher be paid on the basis of the quality of his work or should all teachers be paid on a standard scale basis?" In his analysis of the response to this item, Gallup noted that:

> The principle of paying anyone on a standard basis--and overlooking his individual effort and success--runs counter to the prevailing ethos of the nation, especially in occupations that are regarded as professional. The results of this question indicate that adults regard teachers as they do other professional groups--58% believe teachers should be paid on "quality of work" and 36% believe teachers should be paid on a "standard scale basis."[5]

The Gallup study was replicated on a local basis in a small region of Missouri. The findings were generally consistent with those of the Gallup study. In responding to the question of accountability, 80 percent of the respondents indicated that school personnel should be held accountable for student progress.[6]

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[4] Ibid., p. 101.

[5] Ibid., p. 102.

[6] James V. Sandrin and Robert F. Steere, "Gallup Poll Replicated," News, Notes, and Quotes, Newsletter of the Phi Delta Kappa, 15 (January, 1971), 3.

A comparatively recent trend in the American educational sphere which has tended to retard the development of a cohesive school staff has been the collective bargaining process. This process has often been influential in the formation of separate organizational affiliations on the part of teachers and administrators.[7] Stipulating a lack of bargaining experience as a major cause of the conflict which has resulted between teachers and administrators is somewhat irrelevant to this thesis. What is more pertinent is that perhaps steps may now be initiated, through use of rewards, to promote a unified staff approach to the task of educating children.

While a host of factors may be instrumental in determining the level of educational effectiveness at which a school staff functions, it is conceivable that the aspect of financial reward has potential as yet unrealized for positively influencing staff effectiveness.

Although not the specified primary concern of this thesis, but certainly of importance to any proposal for educational change, is identification of the stimuli which have influenced the proposal.

Callahan has described the position of vulnerability in which public school administrators have found themselves

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[7]C. R. Young, "The Superintendent of Schools in a Collective Bargaining Milieu," in The Collective Dilemma: Negotiations in Education, ed., P. W. Carlton and H. I. Goodwin (Worthington: Charles A. Jones Publishing Co., 1962), pp. 104-106.

functioning for the greater part of this century:

> . . . I was not really surprised to find business ideas and practices being used in education.
>
> What was unexpected was the extent, not only of the power of the business-industrial groups, but of the strength of the business ideology in the American culture on the one hand and the extreme vulnerability of schoolmen, especially school administrators on the other. I had expected more professional autonomy and I was completely unprepared for the extent and degree of capitulation by administrators to whatever demands were made upon them. I was surprised and then dismayed to learn how many decisions they made or were forced to make, not on educational grounds, but as a means of appeasing their critics in order to maintain their positions in the school.[8]

The problem to which this thesis is addressed is that of conceptualizing a means for recognizing the effectiveness of a given school staff through the application of group rewards. The focus, then, is one of educational improvement, based on sound management practice and relevant sociological and social psychological data.

Purpose of the Study

The purpose of this study is to generate a descriptive construct for a school unit incentive plan appropriate for implementation at the elementary school level.

Importance is placed upon the development of a school incentive model which retains a nature of flexibility. No attempt shall be made to determine what the educational goals of elementary education should be, what constitutes a

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[8] Raymond E. Callahan, Education and the Cult of Efficiency (Chicago: The University of Chicago Press, 1962), preface, pp. 1-2.

good teacher, or what specific instruments best determine teacher or school effectiveness.

The proposals generated in this study shall be intended to legitimize the concept of merit rewards applied to group situations, promote a group approach to educational endeavors, and suggest those directions which seem appropriate in the area of school effectiveness.

Procedure and Methodology

A review of the literature pertaining to the relevant aspects of teacher merit salaries, group dynamics, and evaluation of teacher effectiveness will be conducted. From an analysis of this literature and the application of inductive logic on the part of the investigator, a rationale for the proposed model will be developed. The model to be generated will be focused toward implementation at the elementary school level.

The allocation of school unit rewards shall be dependent upon the level of effectiveness at which the school staff performs. Criteria for the determination of school effectiveness will be stipulated. Appropriate instruments for the measurement of the school's performance on the stipulated criteria will also be included.

Background Information

Likert has cautioned against the apparently pervasive tendency of individuals to resist alteration of long-standing procedures:

> Many persons approach all social science research with a healthy skepticism. This is excellent and to be encouraged. It is, however, at least as important to examine traditional principles and practices with skepticism. Long acceptance does not make a matter right. Common practice does not make it the best practice.[9]

These observations appear especially pertinent when examined in relationship to the salary practices which are presently common in most public school systems.

In the twenties, the single salary schedule appeared and began its pattern of growth until it has become the most popular form of salary determination in the public schools. Fawcett has presented what he discerns as the inappropriate motivational aspects of the single salary structure:

> The policy most common today of having eleven steps in the scale serves small purposes of motivation. Many school districts have completely nullified retention motivation by giving unlimited credit for prior experience to teachers from other school systems. The large number of steps in the salary scale has, in today's market, proved to be ineffective in meeting today's problems.
>
> In public school districts most attention is being paid not to motivational aspects of salary policy, but to the beginning salary for inexperienced teachers and to the maximum salary for experienced teachers. A highly technical problem involving one of the most difficult aspects of professional administration is being tested as a public debate question. This problem is further complicated by the tendency of teacher organizations to utilize the debate over salary levels as a device to procure and retain members for their organizations. They use raised salary levels as proof of their services to their members. These actions tend to obfuscate the real problems of salary incentive.[10]

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[9]Rensis Likert, The Human Organization: Its Management and Value (New York: McGraw-Hill Book Company, 1967), preface.

[10]Claude W. Fawcett, School Personnel Administration (New York: Macmillan Company, 1964).

Tye, in his examination of strategy formulation for planned educational change, suggested that involved schools ask the question, "do our reward systems foster a sensitivity toward identifying a needed change, or do they foster a maintenance of the status quo?"[11] The variance in the quality of the competence, performance, and subsequent effectiveness of teachers is not rewarded under a single salary structure. The dominant practice in public schools of distributing financial rewards on the basis of seniority and level of formal preparation, tends to negate any stimulus which salaries might possess for motivating teachers to strive for increased effectiveness. Research by McCall and Krause has indicated that the prevalent criteria for financial reward distribution showed little correlation with merit and effectiveness.[12]

It is important to note that the benefits to be derived from the motivational characteristics of financial rewards are not directed solely toward the satisfaction of materialistic needs in man. Simon has observed that:

> . . . in certain spheres of action, the behavior of men is generally oriented around the "economic motive." Yet, for most men, the economic gain is not usually an

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[11]Kenneth A. Tye, The Principal and the Challenge of Change (Melbourne: The Institute for Development of Educational Activities, Inc., 1968), p. 20.

[12]William McCall and G. Krause, "Measurement of Teacher Merit for Salary Purposes," Journal of Educational Research, 53 (October, 1959), 73-75.

> end in itself, but a means for attaining more final ends; security, comfort, and prestige.[13]

In a discussion of incentives, Barnard has noted:

> As to some individuals, material is required for satisfaction; as to others, social benefits are required. As to most individuals, both material and social benefits are required in different proportions.[14]

Following a line of thought similar to that of Simon, Barnard further states:

> There is unlimited experience to show that among many men, and especially among women, the real value of differences of money rewards lies in the recognition or distinction assumed to be conferred thereby, or to be procured therewith.[15]

Leavitt has also examined the influence of financial rewards from a psychological perspective. He has argued that money incentives have been awarded a place of significance because money is "a common means for satisfying all sorts of diverse needs in our society and because money may be handled and measured. Money is 'real'; it is communicable." He further noted that "money incentives fit with our culture's conception of what work means."[16]

In responding to survey results which indicate that employees place financial rewards fourth or fifth among the rewards obtainable from their work, Leavitt contended that:

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[13]Herbert Simon, Administrative Behavior (New York: The Free Press, 1957), p. 5.

[14]Chester I. Barnard, The Functions of the Executive (Cambridge: Harvard University Press, 1968), p. 57.

[15]Ibid., p. 145.

[16]Harold J. Leavitt, Managerial Psychology (Chicago: University of Chicago Press, 1958), p. 171.

> . . . these are misleading findings. Where management once may have overrated the significance of money (sometimes feeling that this was the only reward due a man for his labors), these rank-ordering surveys directly suggest that money is somehow less important than some other things. The difficulties with this reasoning are two: the presumption that man's motives can be broken down into a static order representing his permanent and unchanging attitudes and the fact that we live in a society which approves the expression of interest in working conditions and supervision and disapproves the the expression of interest in money.[17]

Crystal has also assumed a position in support of the ability of financial rewards to motivate employees to perform more effectively. He contended that if some psychologists assume that money is no longer a motivating force for employees, it is not because money now lacks importance. Crystal argued that:

> Perhaps the psychologists are right. But if they are, it is for the wrong reasons. If money no longer motivates, it is because of the inept way in which some companies handle their compensation programs. It is quite possible that the psychologists' studies were conducted at such companies.[18]

As previously noted, the numerous attempts at application of the teacher merit rating concept to the salary schedules in public schools have resulted in a divergence of opinion regarding the feasibility of the merit principle. An additional fact of importance, which has also been mentioned earlier, is that the available literature on teacher merit rating pertains to the awarding of incentives on an

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[17] Ibid., p. 172.

[18] Graef Crystal, Financial Motivation for Executives New York: American Management Association, 1970), pp. 14-15.

individual teacher basis.

The NEA Research Division has gathered from a large number of sources the major arguments, pro and con, regarding teacher merit rating. While either of the positions may be expanded upon, the following lists serve to provide an adequate overview of the opposing viewpoints most commonly expressed:

Pro Merit Rating

1. The principle of merit rating is sound and logical. Teachers should be paid what they are worth.

2. The good teacher welcomes a merit pay system. Many poorer teachers hide behind tenure.

3. Merit pay is an incentive for all teachers to work harder.

4. The public is interested in receiving dividends for money spent. Merit pay programs will make the public more willing to support higher salaries.

5. Merit pay programs will tend to draw and retain superior teachers who can look forward to financial rewards on the basis of achievement.

6. Merit rating is used in industry and business: hence its application in education is consistent with general practice.

7. The more adequate financing of public education requires an examination of salary policies; merit rating should be considered as a principle.

8. Teachers are already rated daily by pupils, supervisors, parents and fellow teachers. There is no reason why they cannot be rated for salary purposes.

9. Competent administration can rate with few inequities. This should be a regular part of administrative assignment.

Anti-Merit Rating

1. Objective and valid measures of teaching efficiency are not available.

2. Rating of the "human element" (personality, attitudes, consideration, leadership, judgement) cannot be accurately accomplished.

3. The effect of one teacher cannot be judged apart from the effects of other teachers, parents, or environment.

4. Judgement of the immediate results of teaching overlooks the effects that are shown years later.

5. Merit rating for salary purposes is usually proposed as an administrative technique for controlling educational costs of instruction rather than as a means of encouraging better teaching.

6. Merit pay plans actually increase educational costs because of the large staff necessary for adequate administration of the system.

7. Salaries based on rating tend to lower morale. They provide an unwholesome sort of competition that divides a professional group. They tend to reduce cooperation between teacher and teacher and between teacher and administrator.

8. Cooperative discussion between teacher groups and boards of education are often inhibited when merit rating for salary is involved.

9. Rating for salary purposes takes a lot more time than the benefits derived warrant--time that could otherwise be used for assisting teachers.

10. Rater bias is inevitable. No two raters would weigh or rate the same.

11. Teachers would tend to conform to the emphasis of the rater in hope of financial reward and not for the purpose of improving instruction.

12. Parents would pressure to know which teachers were rated "superior" and insist on having them teach their children.

13. It is more important that the general level of teaching be elevated rather than a few teachers rewarded.[19]

The principle of merit incentive continues to be a current consideration in the State of Michigan. As a segment of his educational reform package, Governor William Milliken has included a recommendation providing for the development of experimental incentive pay programs.

Section 1 of Senate Bill 1083 reads:

> A teacher incentive pay demonstration program for increasing and rewarding excellence in teaching and for increasing teacher productivity is established in the department of education in order to develop recommendations for a statewide teacher incentive pay program. The demonstration program shall include projects in not less than four local school districts.[20]

The demonstration programs which have been proposed are scheduled to begin in the fall of 1971.

A recent editorial in the Detroit Free Press expressed severe criticism of the reluctance displayed by teacher organizations to become involved in teacher merit rating programs:

> The teachers have made it clear, through their unionization efforts and their demand for greater public support of schools, that they expect more of society than in the past. It seems only fair that society should ask of them in turn that they accept a modest system of incentives to reward merit and penalize sloth.[21]

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[19]National Education Association, Research Division, The Arguments on Merit Rating, Research Report 1959-30 (Washington, D. C.: The Association, 1959).

[20]Senate Bill 1083, Teachers' Incentive Pay: Establish Demonstration Plan, duplicated by Michigan Association of School Boards and Michigan Association of School Administrators (1969).

[21]Editorial, The Detroit Free Press, March 3, 1971, p. 6A.

The editorial also equated merit rating with accountability, and indicated that the single salary schedule has a negative influence on teaching:

> The schools have too little accountability now, and the administrators--who ought to be held accountable for results within a building--have too little discretion. The system of flat-rate pay increases tends to reduce teaching to its lowest common denominator.[22]

The 1969-70 school year witnessed, in Michigan, the implementation on a state-wide basis of a testing program designed for the purpose of assessing the educational progress of students in selected grade-levels. The public's continuing insistence for the procurement of evidence of the effectiveness of the teaching process has been cited as an instrumental factor in the realization of such an assessment program. In September, 1969, the Bureau of Research of the Michigan Department of Education noted in its initial school assessment report:

> In recent years, it has become increasingly evident to both professional educators and the general citizenry that reliable information concerning progress in education is scarce. As the costs of education climb and the property taxes become more burdensome, the demand for performance indicators in the field of education increases. Under present conditions, schoolmen are hard pressed to respond to their communities' questions regarding the effects that added dollars will have upon the educational performance of their children.[23]

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[22] Ibid.

[23] Bureau of Research, Michigan Department of Education, Purposes and Procedures of the Michigan Assessment of Education (Lansing: The Bureau of Research, September, 1969), p. 1.

The passage of the Michigan negotiations statute in 1965 served to produce an organizational schism between teachers and administrators. Where prior to this legislation, many teachers and administrators had been committed members of a single professional organization, the subsequent months found a polarization of attitudes between the two groups. Young noted a result of the conflict:

> The formal withdrawal of Michigan's principals and superintendents from the MEA was not an impulsive act. It grew out of two years of frustration and abuse. I personally felt reconciliation would in time be possible, but the superintendents' vote was overwhelming. The mood remains angry and irrational. The wounds will be long in healing.[24]

It is possible when analyzing the advent and subsequent implementation of the negotiation process in Michigan schools, to, in retrospect, determine factors which were inappropriately handled. Young has observed:

> We now know that laws which fail to give teachers enough freedom to act will eventually lead to extra-legal action. But lack of latitude alone cannot account for the ugliness. In Michigan it was ignorance! The law was implemented before teachers, boards, and administrators could grasp the meaning, ritual, and tactics of collective bargaining. As a consequence the state is still attempting to recover from the unnecessary ill will our original ignorance generated.[25]

The background information which has been presented pertains to areas which may be affected by a school unit reward plan. Those factors discussed are not viewed as an all-inclusive listing. Other aspects of the educational

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[24]Young, loc. cit.

[25]Ibid., pp. 104-105.

milieu may conceivably be potentially more responsive to such a reward plan than those cited.

A significant aspect of this thesis lies in the unique approach employed for the allocation of financial incentives in educational settings. This study will attempt to provide substantial indication that the previously cited problem areas may be positively influenced through adaptation of the school unit reward model, herein developed.

Limitations of the Study

The model to be developed as a result of this research effort will be designed for implementation at the elementary school level. While it is anticipated that the school unit incentive concept will be applicable at all levels of public education, for purposes of presentation and justification, the plan may be presented in a more clear and concise manner if described in terms of a specific organizational level.

It is recognized that the merit concept has been applied in various forms in business and industrial areas. The literature reviewed in this thesis will be limited to the merit rating concept as applied to teachers in public schools.

Reference shall be made to group reward structures and group processes in industrial settings. The purposes of such information are to examine the manner in which a group may function under certain conditions and to describe certain effects rewards may have upon the group. It is not proposed that industry be equated with education or are data

relative to industrial incentive plans presented.

An additional limitation of this study is the subjective nature of the generated proposals. Although the proposed plan will be based upon the research and authoritative opinion presented in prior chapters, the selection and interpretation of the evidence will be arbitrarily designated and analyzed by this investigator.

Description of Terms

1. Merit pay, merit reward, merit incentive, merit rating, teacher merit rating, incentive reward, incentive pay, incentive rating, teacher incentive, individual teacher merit, and individual teacher merit rating shall be used synonymously when applied in the text of this thesis.

The NEA has developed a definition of merit reward which reads:

> A plan by which promotion, increase in salary, and general advancement within a school system are determined by the degree of efficiency with which teachers perform their duties. It may be combined with other plans using experience, training, etc., in arriving at salary increases or promotion.[26]

For purposes of reference to the model to be developed in this thesis, the degree of efficiency with which teachers perform their duties is not a prime concern. Merit reward when applied to the model shall be concerned with the degree of effectiveness with which the teachers of an elementary school perform their duties.

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[26]National Education Association, op. cit., p. 1.

2. School unit and elementary building unit will refer to the total staff of an elementary school.

3. School unit incentive, school unit reward, elementary building unit incentive, elementary school unit reward, and teacher incentive model will refer to the merit rewards as applied to the total staff of an elementary school.

4. A group shall be considered an aggregate of two or more people interacting, in which the existence of all is utilized for the satisfaction of some needs of each.[27]

5. Group productivity shall be viewed as a direct outcome of task performance. It shall refer to the degree to which a group succeeds in the realization of group goals.[28]

6. Group effectiveness shall be viewed as a direct outcome of group productivity. The degree of group productivity shall determine the degree of effectiveness. A productive group shall be assumed to be an effective group.

Group effectiveness shall be determined by student testing results in the following areas: (a) Reading and mathematics achievement. The reading and mathematics sections of a standardized battery such as the Sequential Tests of Educational Progress shall be used for measurement of achievement in these basic skill areas; (b) Student perceptions of teacher and principle

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[27]C. Gratton Kemp, Group Process (Boston: Houghton Mifflin Company, 1964), p. 27.

[28]Ralph M. Stogdill, Individual Teacher and Group Achievement (New York: Oxford University Press, 1959), p. 202.

expectations. Teacher and principle expectations shall refer to the expectations and norms of school learning for students held by teachers and principals. These expectations shall be measured in terms of student perceptions. The measurement instrument to be employed shall be a perceptions test such as the Student Questionnaire

7. Group morale is defined as a direct outcome of freedom of action granted its individual members in the performance of their group defined roles.[29]

8. Group motivation is defined as any impulse or desire that moves the group to action.

Overview of the Study

Chapter I will consist of an attempt to establish the importance of and need for the study, describe the purpuse of the study, detail the procedure to be followed, provide background information, delimit the study, and define the terminology to be used.

Chapter II will contain a review of the literature pertaining to teacher merit rating.

Chapter III will contain a review of the literature in the area of evaluation of teacher effectiveness. Attention will be directed to the methods and instruments which appear most applicable for adaptation to the measurement of the effectiveness of a total elementary school staff.

Chapter IV will contain a review of the pertinent

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[29] Ibid., p. 212.

literature in the area of group dynamics. Comparisons of group and individual performance on various tasks; the effects cooperative and competitive situations have upon group effectiveness and productivity; the influences which group rewards have upon various aspects of the group process; and practical application of a group reward system will receive attention.

Chapter V will consist of three sections. In section one a rationale for a group incentive structure applicable for public school implementation at the elementary level will be presented. The rationale will be developed from information cited in Chapters II, III, and IV of this thesis.

Also included in section one will be criteria for determination of school effectiveness, dollar amounts of rewards, measurement procedures, bases for reward allocation, and procedural considerations.

Section two will be intended to provide an illustration of the financial considerations pertinent to the model incentive plan. The mode of presentation will be an itemized financial tabulation as applied to a hypothetical elementary school.

Section three will be the presentation of a summary of the study and writer observations pertaining to selected aspects of the study.

CHAPTER II

TEACHER MERIT SALARIES

Historical Development

The existence of individual teacher merit salary provisions is not a recent phenomenon in American public education. Early teacher salaries were determined through a process of individual bargaining between the teacher and the board of education.[1]

The relative worth of a given teacher's performance was established by a principal, supervisor, or superintendent through a process of direct observations. These observations provided a basis for the establishment of the amount of the annual salary offer by the board of education. Theoretically, those teachers who displayed a higher quality of service were recipients of comparatively higher wages.[2]

Teachers discovered that this method of salary determination resulted in numerous inequities. Eastmond has described the concerns expressed by teachers as a result of the individual negotiation procedure:

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[1]New England School Development Council, Merit-Salary Committee, Teacher Competence and Its Relation to Salary (Cambridge, Mass.: The Council, Spaulding House, July, 1956), p. 1.

[2]Ibid.

> This practice amounted to a type of bargaining in which the fluctuations of the economy and of supply and demand of teachers frequently reacted against the best interests of the teacher. Salaries were regulated in such a way that the most aggressive, nervy, or "apple polishing" teachers frequently profited while the more modest and retiring fared less well.[3]

The subsequent adoption of salary schedules by boards of education was aimed at correction of the disadvantages produced by individual bargaining. The salary schedule method of teacher wage regulation was viewed as advantageous by both teachers and school boards. Rationale for the conversion to teacher salary schedules has been noted by Eastmond:

> Salary schedules were developed to help solve some of the injustices which tend to accompany individual bargaining, such as favoritism for relatives, overemphasis on personality, sex, religion, etc. Schedules were favored by teachers because they eliminated these injustices and the insecurities and frustrations that so often accompanied irregular and haphazard conditions. Boards of education likewise favored them because they simplified the estimates of budget needs and anticipated expenditures, and thus made possible the long-term planning of school finance.[4]

Initial salary schedules were so designed as to differentiate between the level of the salaries paid to elementary teachers as compared with wages received by secondary teachers. It was generally assumed that the teachers of elementary grades were faced with a much less demanding educational task than were those teachers of secondary students. The comparatively highly salaries paid to secondary

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[3]Jefferson N. Eastmond, The Teacher and the School Administration (Boston: Houghton Mifflin Co., 1959), p. 360.

[4]Ibid.

teachers also served to discriminate against women, since most teachers of elementary grades were female. Increased acceptance of the concept that teaching young children is as demanding and difficult as instructing children of secondary school age, coupled with pressure from teacher organizations, assisted in influencing rapid adoption of the single salary schedule. Single salary schedules are designed to differentiate the annual wages of teachers on the basis of formal preparation and years of teaching experience.[5]

The application of teacher merit rating programs for salary purposes has declined since the advent of the single salary schedule in the 1920's. The National Education Association reported in 1923 that data provided by 941 cities indicated that teachers were rated in 57 per cent of the responding school districts.[6] Merit rating was used for salary purposes in 36 per cent of the districts.[7] A survey for similar purposes conducted in 1969, again by the National Education Association, determined that of 1199 teacher salary schedules analyzed, 11.1 per cent stipulated provisions for

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[5]Ibid., p. 361.

[6]National Education Association, Report of the Salary Committee, Teachers Salaries in 1923, p. 52, cited by Lloyd P. Young, The Administration of Merit-Type Teachers' Salary Schedules (New York: Teachers College, Columbia University, 1933), p. 5.

[7]Ibid.

added compensation based on superior teacher performance.[8]

Barr, writing in 1926, attributed the decline of merit systems to insufficient professional development on the part of the teacher:

> Merit ratings as bases for salary and promotion appeared in the field long ago and have been tried in many places. There are isolated instances of considerable degree of success, but on the whole the scheme has met with indifferent success.
>
> The fact must be faced that many teachers are opposed to merit rating because they lack sufficient professional vision and are afraid to trust their colleagues. This is not to be wondered at, nor is it as severe and harsh an indictment of the teaching body as it sounds. It really points to the fact that the teaching body is still largely made up of immature and untrained people who are not capable of entertaining the requisite professional standards. It must be emphasized, of course, that there are many splendid examples of high professional idealism to be found among teachers the country over.[9]

Barr concluded that reticence on the part of administrators to become involved in merit plans was an additional limiting factor in the growth of merit rating:

> Many administrators also lack the courage to try this system out. This too is not to be wondered at when it is considered, on the one hand, that all sorts of political manipulation is likely to result, unfair pressure brought to bear, and a general state of discord engendered. Again, on the other hand, it is to be noted that many courageous leaders have been able to obtain the confidence of teachers in such schemes.[10]

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[8]National Education Association, Merit Provisions in Teachers' Salary Schedules, 1968-69 (Research Memo 1969-12) (Washington, D. C.: The Association, 1969), p. 1.

[9]A. S. Barr and William H. Burton, The Supervision of Instruction (New York: D. Appleton and Co., 1926), p. 452.

[10]Ibid., pp. 452-453.

While teacher merit rating has been under consideration by educators and the public for some time, the literature does not appear to reveal a systematic investigation of the concept. There is, in fact, a divergence of opinion regarding the content of the literature dealing with teacher merit rating. Karam found merit writings to be deficient in a pragmatic sense:

> A careful review of the literature on merit-rating pay plans revealed that a major portion of the writings were merely opinions either for or against the principle of merit rating for salary purposes. A surprisingly limited amount of material was available concerning the mechanics of the plans and suggested techniques for developing and administering the plans.[11]

Mitchell, in contrast, found a sufficient quantity of information dealing with various merit programs but felt that the aspect of research had been virtually ignored:

> Few generalizations can be safely made about the subject, but one of the safest is this: There has been a great deal of trial and error experimentation, but very little of what could be called basic research.[12]

The trend toward widespread adoption of salary schedules in lieu of individual teacher bargaining did not serve to eliminate consideration of the "merit principle." Early in the growth period of the salary schedule, Cubberly voiced concern over the increasing failure to reward teachers in terms of exceptional performance:

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[11]Irvin A. Karam, "Merit-Rating Salary Plans in Public School Systems of the United States, 1955-57," Journal of Educational Research, 53 (December, 1959), 144-148.

[12]Jerry B. Mitchell, "Merit Rating: Past, Present, and Perhaps," Phi Delta Kappan, 42 (January, 1961), 139-142.

> A uniform salary schedule assumes that all of equal rank and experience are approximately of equal worth--a condition that is never found to exist.[13]

Types of Teacher Merit Pay Plans

A hindrance in attempting to examine available literature pertaining to teacher merit rating is the lack of general agreement on the use of merit terminology.

In an attempt to clarify this issue, Davis has categorized merit plans from a functional perspective. She has argued that factors such as professional growth requirements, salary penalties, and extra pay for extra service are not merit provisions.[14]

According to Davis, only two devices, with varying details, may be added to a salary schedule in order to incorporate merit provisions. These devices are described as: (1) acceleration through the salary schedule, which refers to the practice of alloting either double increments or a larger-than-normal increment as the teacher advances from the minimum to the maximum salary; and (2) superior-service maximums, which provide for promotional steps above the normal maximum salary. Either of these methods are to be applied only as a reward for superior service.[15]

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[13] E. P. Cubberly, Public School Administration (Boston: Houghton Mifflin Co., 1929), p. 377.

[14] Hazel Davis, "Facts and Issues in Merit Salary Schedules," The Journal of Teacher Eduation, 8 (June, 1957), 126-135.

[15] Ibid., p. 128.

The National Education Association has attempted to classify merit provisions in terms of common methods of implementation. The salary survey published by the NEA in 1969 defined the three major categories of merit plans which were determined:

> The first, and most frequent type, is the reservation of authority by the board of education to exceed the schedule for "outstanding" or "meritorious" service by teachers and sometimes by other members of the instrumental staff. This is usually a blanket statement providing no detailed information as to the methods of implementation.
>
> A less frequent reference to merit is in the form of a statement granting the board of education power to accelerate the progress of outstanding teachers on the regular schedule by granting double increments, or the like, but usually not to exceed the regularly scheduled maximums of the salary classes contained in the basic schedule.
>
> The third major type of merit provision . . . deals with provisions for exceeding the teacher salary schedule by definite dollar amounts. Generally, these merit supplements are granted either before or after the regularly scheduled maximum has been reached. Requirements for eligibility vary from system to system, but most merit provisions providing definite dollar amounts are applicable only after several years of service in the system; many apply only after the regularly scheduled maximum has been reached through normal progression on the schedule.[16]

Closely associated with the misconceptions generated by varied definitions of merit terminology is the confusion as to whether or not a school district actually has merit provisions within the salary structure. Karam found in a sample of 224 school districts, fifty-six of the superintendents stated that they "did not have and never did have a

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[16]NEA, Merit Provisions in Teacher's Salary Schedules, 1968-69, op. cit., p. 1.

merit pay plan, even though it had been claimed that they did have." Superintendents in sixty-five of the districts reported that their salary schedules contained merit provisions which were seldom or never used.[17]

Opposing Views on Teacher Merit Salaries

Evidence of the durability of the conflict often produced when teacher merit rating is under consideration may be demonstrated by a comparison of opposing positions. Contemporary arguments regarding merit rating have been detailed earlier in this thesis (see pp. 11-13). Opposing views, expressed earlier in this century, reveal a great deal of similarity to current arguments. In a study conducted by Young in 1933, the following points were presented as representative of the opposing schools of thought on merit salaries for teachers:

Pro Individual Merit

1. The public demands that the money which it has given be used to secure and retain the most efficient teaching service.
2. Merit schedules are in harmony with principles underlying efficiency in public service; namely, salary dependent upon a service rendered.
3. A merit salary schedule is based upon a fundamental principle of a salary schedule; it should be such as to stimulate and encourage individual improvement and to reward exceptional merit.
4. Merit salary schedules are flexible so that they may be applied to the exceptional teachers.

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[17]Karam, op. cit., p. 145.

5. They stimulate teachers to be critical of their own work.

6. Merit schedules provide the stimulus and recognition necessary to advance teachers beyond the usual point or plateau of maximum efficiency.

Anti Individual Merit

1. There is no agreement as to just what constitutes merit, or efficient teaching.

2. No reliable, scientific instrument has been developed to measure the varying degrees of teacher efficiency.

3. Merit rating destroys the esprit de corps and morale of the teaching force.

4. It hinders the proper relationship between supervisor and teacher.

5. A teacher's work is hampered by merit rating, and she is prevented from expressing her own individuality.

6. Merit rating tends to unionize the teachers, antagonize the administration, and ostracize teachers who meet the promotional standards.[18]

Stirling examined the opposing positions on merit rating from the perspective of their relationship to the improvement of teacher effectiveness. He concluded that the only justification for the institution of merit salary programs is to reward evident improvement of teacher effectiveness.[19]

Justman, Brighton and Hannan, Eastmond, Chandler and Petty, and Nygaard and Roelfs have treated their presentations

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[18]Young, op. cit., pp. 3-4.

[19]Thomas Stirling, "What is the Case For and Against Merit Rating for Teachers?" Bulletin of the National Association of Secondary School Principals, 44 (April 1960), 92-95.

of teacher merit salaries in similar fashion. They have examined the divergent opinions regarding merit rating and have derived generalizations descriptive of existing programs. The more specific threads of commonality apparent in these writings are the attempts to focus on the difficulties inherent in the determination of effective teaching and accurate, objective, teacher evaluation.[20]

In the opinion of Castetter, the controversy over teacher merit salary programs will probably never be completely resolved:

> That professional performance as a factor in teachers' salaries will neither be universally accepted nor rejected appears to be a reasonable assumption. It is to be anticipated that experimentation in relating compensation to performance will continue. The continuing controversy over "merit rating" points to the need for increasing research and experimentation to test, to refine, and to improve procedures which have been developed.[21]

Lieberman argued that a major factor involved in attempted teacher merit programs is the interpersonal conflict which often results:

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[20]Joseph Justman, Merit Rating: A Survey of the Recent Literature, Publication No. 137 P.N.R. 109 (New York: Board of Education, 1958); Stayner Brighton and Cecil Hannan, Merit Pay Programs for Teachers (San Francisco: Fearon Publishers, 1962); Eastmond, op. cit., pp. 389-401; B. J. Chandler and Paul V. Petty, Personnel Management in School Administration (New York: World Book Co., 1955), pp. 248-253; Joseph Nygaard and R. M. Roelfs, "Personnel Policies and Public School Finance" in The Theory and Practice of School Finance, by Warren Gauerke and Jack Childress (Chicago: Rand McNally, 1967), pp. 337-341.

[21]William B. Castetter, Administering the School Personnel Program (New York: The Macmillan Co., 1962), pp. 296-297.

> Teacher organizations and probably most school administrators are opposed to salary differentials among teachers on the basis of merit or alleged merit. Merit rating is usually a divisive factor among teachers themselves, because there appears to be no commonly accepted precedent to implement it. If school administrators decide who gets the merit raises, teachers become unduly subservient to the administrators and there is always the possibility if not the fact of favoritism in awarding merit increases. Many school administrators do not relish the task of singling out the "better" teachers for salary purposes, especially if they have to work with those who are turned down for merit increases. If teachers decide who get the merit raises they end up wrangling among themselves.[22]

Prior to any attempt to reward teachers on a merit basis, Campbell, Corbally and Ramseyer proposed that a preparation process is necessary:

> In recent years, lay citizens and school board members in many school districts have demanded that teaching performance be evaluated for salary purposes. This issue has been debated more than it has been studied. We are convinced that if merit performance is to become a factor in salary determination, most school districts have a long process of "getting ready" for such a program.[23]

Filbin detailed the rationale for the teacher merit salary plan in Lincoln, Massachusetts. The program was based on the "merit principle"--reward for superior performance. Filbin elected to support merit rating from a defensive stance. He argued that the chief antagonists in merit controversies were usually teachers. In choosing to denounce evaluation and rating by their peers, Filben felt that

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[22]Myron Lieberman, "A Foundation Approach to Merit Pay," Phi Delta Kappan, 16 (December, 1959), 118-122.

[23]Roald F. Campbell, John E. Corbally and John A Ramseyer, Introduction to Educational Administration (New York: Allyn and Bacon Inc., 1958), p. 106.

teachers thus refuted a major factor represented in their teaching--the recognition of individual differences in children and the manner in which teachers acknowledged these differences.[24]

Smith focused upon one of the common arguments against merit rating in his refusal to accept the concept when applied to teaching. He perceived teaching as a situation which is dependent upon cooperation. The necessary cooperation is not viewed as possible due to the competitive nature of merit systems in which a "minority" of the teachers are rewarded while a majority are not. Merit rating is, in addition, perceived by Smith as being politically oppressive since the individuals whom it directly affects are not those individuals who originate, put into operation, and administer the plan.[25]

In contrast, Lieberman asserted that merit rating encompasses a cluster of problems. He contended that a workable plan for such rating must resolve the issues of who shall do the rating, what shall be the criteria for rating, at what intervals the rating should occur, who shall be rated, what portion of the salary budget shall be used for rating, and how large shall the differentials paid for merit be in terms

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[24]Robert L. Filbin, "Merit Salary--A Realistic Approach to Upgrading the Teaching Profession," School Board Journal, 150 (April, 1965), 11-12.

[25]Currien C. Smith, "Why Teachers Dislike Merit Rating," Overview, 1 (February, 1960), 41-44.

of performance level.[26]

In responding to the contentions raised by many critics that merit rating is a device to reduce school budgets, Lieberman observed that:

> It is a historic fact that the economic position of teachers has been declining for several decades and that this decline has taken place during a trend away from merit rating and towards single salary schedules.[27]

As a conclusion to his analysis of the status of teacher merit rating, Lieberman noted that the variance both in the types of merit programs attempted and the degree of success realized by these programs does not provide justification for blanket condemnations of merit rating:

> . . . even those who criticize current proposals for merit rating should be exerting every effort to develop a feasible way of implementing it. Certainly we should not waste any time on those who believe that good teachers are immune to economic considerations.[28]

The confidence expressed by those who support teacher merit pay systems was viewed by Vander Werf as being based upon four assumptions, all of which he felt to be partially or completely false. He cited the assumptions, which propose:

1. That teaching can be accurately measured.
2. That administrators can be objective in their judgements.
3. That individual competitive situations encourage competence and high morale.

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[26] Lieberman, op. cit., p. 118.

[27] Ibid., p. 119,

[28] Ibid., p. 120.

4. That teaching staffs lie on the curve of normal distribution.[29]

Partial support for Vander Werf's contentions may be found in an opinion survey reported by Doyle. The Arizona Commission on Teacher Education and Professional Standards polled teachers employed in Arizona school districts which had functioning merit salary programs. The purpose of the survey was to determine teacher attitude regarding the merit plans. The findings indicated that the teachers were basically dissatisfied with the merit programs by a ratio of five-to-one. The prime source of concern was found to be a perceived failure to identify and measure true teacher professional merit.[30]

Kleinman contended that the promotion of creative teaching cannot be accomplished through the use of financial incentives. As an alternative to the use of merit salaries as a means of improving education, Kleinman promoted the raising of standards for admission to the profession. The application of positive methods of teacher evaluation was viewed as an essential additional factor in improving the teaching profession.[31]

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[29]Lester Vander Werf, "Trouble With Merit Systems," School Board Journal, 12 (August, 1952), 17-18.

[30]Roy P. Doyle, "Upgrading Professional Competence--Is Merit Rating the Answer?" Arizona Teacher, 49 (November, 1960), 16-17.

[31]Jack H. Kleinman, "Merit Pay--The Big Question," NEA Journal, 52 (May, 1963), 42-44.

The Committee on Merit Payments of the New York State Teachers Association concurred with the stand taken by Kleinman regarding the use of merit salaries for improvement of instruction. The Committee concluded that salary policies should reflect attempts to attract the most competent individuals available into the teaching profession.[32]

Engleman analyzed the rating of teachers for salary purposes in terms of the obstacles and difficulties commonly met in attempts to develop and implement such programs.[33]

The implementation of teacher merit programs is hindered by three major factors according to Engleman. The first factor is the complex character of the professional task of the teacher; the second is the large range of specialization found in a modern day school system; and the third factor is the difficulty present in locating merit raters who possess the ability to rate with validity and fairness. Due to these factors, Engleman felt that a rating system that allows broad, generalized comparisons of one teacher with another was extremely difficult to develop.[34]

In 1958, the Citizens Advisory Committee on Teacher Salaries in Winnetka, Illinois reported on their extensive

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[32]New York State Teachers Association, Committee on Merit Payments, Teacher Merit and Teacher Salary (Albany: The Association, 1957).

[33]Finis E. Engleman, "Difficulties and Obstacles Inherent in Merit Ratings for Teachers," Journal of Teacher Education, 8 (June, 1957), 136-139.

[34]Ibid., p. 136.

investigation to determine the feasibility of a teacher merit rating program. The Committee observed that:

> Superficially, the idea of merit rating is appealing. We are inclined to assume that since human beings differ in their competencies, they should be rewarded according to their worth. This would call for some device which objectively measures teaching competency, even though this goal has been vigorously pursued by educators for many years.[35]

The Winnetka Committee included among its membership, executives from the business and industrial spheres of the community. Merit plans in industry and business were examined as a part of the investigation. The Committee concluded that even in business situations, where individual performance is more easily measured in an objective manner, merit rating can find only limited application. The salary differentials between individuals in similar job categories were seen as more a reflection of relative length of service than of objectively determined difference in performance. While not viewed as being as easily observed, the practices in business and industry were seen as similar to the general practices in education.[36]

In declining to recommend individual teacher merit rating for the Winnetka faculties, the Committee cited several points which had influenced their decision:

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[35]Report of the Citizens Advisory Committee on Teachers Salaries, Winnetka, Illinois, cited in The Phi Delta Kappan, 42 (January, 1961), 161-163.

[36]Ibid.

1. We do not feel that good teachers now giving all the energy they can offer to children, will somehow discover more energy under a merit system. Nor do we feel that teacher with less devotion and concern will necessarily struggle to do better for reasons of such limited financial differential as can be incorporated in a merit salary device.

2. We do not feel that the competitive implications of merit awards are consistent with the cooperation and mutually helpful practices which now characterize our faculty.

3. We do not think the role of the superintendent as a leader and stimulator and object of faith and good will would be enhanced if he were also the rater, the distributor of financial awards, the judge and jury, as well as counsel.

4. If it is our purpose . . . to design compensation policies that will produce a better product, a better program, a better educational design for Winnetka, we do not believe this would be achieved by merit.[37]

Katz voiced opposition to what he has described as "selective merit pay." He contended that a completely fair and honest merit pay system "is inherently impossible," due to the perceived inability of anyone to accurately determine degrees of merit. Katz also argued that teacher merit pay has produced "discontent, discord and friction within a school staff."[38]

Behavior displayed by certain administrative personnel involved in merit programs has, in the opinion of Katz, proved detrimental to those teaching staffs. A merit

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[37] Ibid.

[38] Irving Katz, "Why I Oppose Selective Merit Pay," Phi Delta Kappan, 42 (January, 1961), 161-163.

program administered by a "strong" principal, superintendent, or board president has often resulted in unquestioning teacher obedience. Katz viewed such reactions on the part of teachers as evidence of a weakening of critical attitudes and the spirit of inquiry.[39]

Katz succinctly expressed his position on teacher merit rating when he noted that merit pay "is a cheap scheme to make teachers' salaries seem to be higher than they are in actuality."[40]

The alleged purpose of merit rating as viewed by Rozzell "to identify superior teachers and pay them accordingly"[41] has not, in his opinion, occurred in practice. In his comparison of merit purpose and merit practice, Rozzell observed:

> I know of no school district in America where conditions are such that merit rating actually realizes that purpose. The grand strategy of the moment for merit rating is to develop a technique by which certain groups seek to avoid the inevitability of increasing tax support for education . . .[42]

On a conceptual basis, Burke found basic agreement with merit salaries for teachers. He has, however, observed that serious drawbacks are inherent in attempts to develop

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[39] Ibid., p. 161.

[40] Ibid., p. 162.

[41] Forrest Rozzell and others, "Satisfactory Pay Should Precede Merit Rating," The Nation's Schools, 2 (February, 1961), 114-117.

[42] Ibid.

and implement satisfactory merit schedules.[43]

A central difficulty as determined by Burke has been the extent to which salaries may accurately be determined through merit rating. Accomplishment of accurate determination was not felt to be within the realm of possibility due to the number of contributions made by a teacher which must be categorized as social in nature. The contributions made by an individual teacher were not seen by Burke as being separable from the contributions of other teachers. Even in those instances where a teacher contributed to the general level of literacy or productive skills, which Burke designated as belonging to the economic domain, it was viewed as an impossible task to determine a given teacher's contribution.[44]

In Burke's analysis of merit rating, he noted that the only justification for any personnel policy is contingent upon its degree of influence in increasing the total effectiveness of the entire staff. In specific reference to merit salaries, he asserted that "the extent to which merit should be a factor in salary policies will depend upon how it affects morale and operational achievements.[45]

According to Burke, the determination of merit

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[43]Arvid J. Burke, "Some Dangers of Merit Measurement," The Nation's Schools, 1 (January, 1948), 27-28.

[44]Ibid., p. 27.

[45]Ibid.

rewards is usually based upon secondary considerations. Such considerations include personality traits, carrying on of specific activities, and observable attitudes. These criteria for awarding of merit salaries are assumed to rest upon the validity of the assumption that such endeavors are indicative of superior results. Burke raised the possibility that certain factors which often tend to be ignored by evaluators may have more effect on end results than do those factors determined as desirable.[46]

Positions of Teacher Organizations Regarding Merit Salaries

The concept of merit salary rating has been the recipient of little in the way of support from the various teacher organizations. The AFL-CIO position, as documented by Megel, contended that proponents of merit plans include ". . . inexperienced but school minded businessmen, a few university professors, school boards, and school superintendents."[47] In expanding upon the Federation's opposition to teacher merit salaries, Megal observed that:

> The American Federation of Teachers, representing classroom teachers, has vigorously opposed this specious practice for more than thirty years. Our organization has seen merit rating fail in city after city. We have seen school board after school board abandon it as unworkable and not conducive to improved educational practice.[48]

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[46] Ibid., p. 28.

[47] Carl J. Megal, "Merit Rating is Unsound," Phi Delta Kappan, 42 (January, 1961), 154-156.

[48] Ibid., p. 154.

The National Education Association also assumed a stand in opposition to merit salary provisions for teachers. A specific area of contention with the NEA is the degree of subjectivity involved in evaluation procedures for the purpose of merit determination. In 1968 the Representative Assembly of the NEA went on record with a resolution pertaining to teacher evaluation and merit rating. The resolution reads in part:

> The Association further believes that the use of subjective methods of evaluating professional performance for the purpose of setting salaries has a deletorious effect on the educational process. Plans which require such subjective judgements (commonly known as merit ratings) should be avoided. American education can better be served by continued progress in developing better means of objective evaluation.[49]

An affiliate of the NEA, the Association of Classroom Teachers, likewise has officially expressed strong opposition to merit rating for teachers. A resolution adopted by the ACT stipulated in precise terms the stand assumed by the Association:

> ACT recognizes the need for classroom teachers, administrators, and school boards to develop a common understanding of the critical issues of evaluation and merit rating. It directs its officers to work for the adoption by the national organizations representing these three groups of a joint statement in line with basic ACT philosophy as hereinafter stated, expressing common agreement and acceptance by all parties concerned.[50]

Section 2 of the ACT resolution pertains specifically to the concept of merit rating and its role in the

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[49] NEA, Merit Provisions in Teachers' Salary Schedules, 1968-69, op. cit., p. 3.

[50] Ibid.

determination of teacher salaries:

> ACT vigorously opposes merit rating for determining salaries. It maintains that experience shows that the evaluation of individuals for merit rating destroys professional relationships and morale; creates strife and discord; impedes the cooperative improvement of education by classroom teachers, supervisors, and administrators; and leads to the deterioration in the quality of education of children.[51]

Opposition to individual teacher merit rating has also been voiced by the leadership of teacher organizations at the State level. Douglas Ward, then president of the Michigan Education Association, responded in August of 1969 to a merit salary proposal by the Governor of Michigan. Governor William Milliken, as a section of his educational reform package, requested that an appropriation be considered for the purpose of financing pilot projects in teacher merit rating.[52]

Ward reacted to the Governor's proposal by noting that although the MEA was not opposed to merit pay, many problems were seen as hindering successful implementation of such plans in Michigan.[53] (See Appendix B p. 181)

Proposals and Suggestions for Teacher Merit Salary Programs

Numerous educators and educator groups have attempted to develop proposals for individual teacher merit salary

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[51] Ibid., pp. 3-4.

[52] Based on official correspondence between Douglas Ward, President of the Michigan Education Association, and Governor William Milliken.

[53] Ibid.

programs. Attempts have also been made by the various authors to stipulate, often in the form of guidelines or necessary conditions, those factors they have deemed as important to the ultimate success of merit programs.

The New England School Development Council conducted an in-depth study of the feasibility of merit salaries for teachers. The results of the eight-year investigation were published in the form of a proposed merit salary plan.[54]

The Council hypothesized that a teacher's maturation and ability level develops in a definite, sequential pattern. Teachers are perceived as initially maturing in their teaching role, secondly in their school role, and finally, in their professional role. The proposed plan suggested that teachers be evaluated for merit salaries in terms of the specific role which they occupy at a given time. This basis for evaluation was proposed as a more accurate method of assessing teachers' performance, since they were judged only on the variables which pertained to their present developmental level.[55]

A salary schedule model was developed by the Council which attempted to relate salary differentials to role development. The model schedule took the following form:[56]

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[54]New England School Development Council, loc. cit.

[55]Ibid., pp. 93-104.

[56]Ibid., p. 104.

Illustration A

Division	Role Satisfied	Step	Annual Salary
I.	Probationary Teacher	1	X
		2	X+Y
		3	X+ZY
II.	Teacher	4	X+3Y
		5	X+3Y+Z
		6	X+3Y+2Z
		7	X+3Y+3Z
		8	X+3Y+4Z
III.	School	9	X+4Y+4Z
		10	X+4Y+5Z
		11	X+4Y+6Z
		12	X+4Y+7Z
		13	X+4Y+8Z
IV.	Professional	14	X+5Y+8Z
		15	X+5Y+9Z
		16	X+5Y+10Z
		17	X+5Y+11Z
		18	X+5Y+12Z

Z = Service Increment Y = Merit Increment

The progression from a lower to a higher Division in this plan is contingent upon years of service and successful realization of the competencies which are characteristic of the preceding Role. A probationary teacher is thus ineligible for Division II salary until three years of successful service have been completed. Eight years of teaching experience are required prior to consideration for Division III. A teacher could conceivably reach the maximum salary level during the eighteenth year of teaching. The Council did not anticipate, however, that all teachers would display a rate of development which would allow progression through the

salary schedule in the minimum time possible. Although a teacher may spend the maximum number of years in a given Division, this tenure does not insure the successful completion of that role.[57]

Criteria were developed for each Role Division which provided the variables upon which teachers are to be evaluated. A unique aspect of the evaluation structure is that upon realization of the competencies in a given Division, a teacher would not again be evaluated on those factors. It was assumed by the Council, that when a teacher developed sufficient abilities in a given Role, evaluation on those abilities would be unnecessary in the future.[58]

In all instances but that of the Probationary Division, the evaluation of a teacher's qualification for advancement to the next Division is to be made by an ad hoc committee of teachers and administrators. Determination of a teacher's advancement within a given Division and from Probationary status to Division I is the responsibility of the administration.[59]

Lieberman has detailed what he believes may be a partial solution to the conflict often produced by merit rating. The crux of Lieberman's proposal lay in the formation of national specialty boards, similar to those found in

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[57] Ibid., pp. 103-104.

[58] Ibid.

[59] Ibid.

the medical profession.[60]

Conceptually, a national organization of teachers would be responsible for providing special recognition to those members who had achieved outstanding levels of competence in their respective field. Special recognition would take the form of an official diplomate. Qualification for a diplomate would be determined on the basis of individual scores on a series of comprehensive examinations. These examinations would be so designed as to measure the applicant's knowledge in his specialty area and his ability to diagnose and prescribe for various types of learning problems. An added facet of the examination process would be evaluation based on direct observation of the applicant in teaching situations.[61]

According to Lieberman, certification by a national board would serve to eliminate "favoritism, bootlicking, horse-trading, and all other evils inherent in merit rating procedures whereby teachers are rated by other personnel in their own school system."[62] Board certification is also viewed by Lieberman as a method of eliminating the opposition to merit rating by teacher organizations. Since the local school administrators would not be active participants in the determination of which teachers receive merit rewards,

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[60] Lieberman, op. cit., p. 120.

[61] Ibid.

[62] Ibid.

the controversy over the granting or withholding of merit would have no basis in fact.[63]

In concluding his proposal for a national specialty board, Lieberman cited anticipated outcomes he viewed as dependent upon a national approach:

> It would be easier to introduce board certification as a basis for merit pay on a national basis than on an isolated local basis. It is always easier to get a school board to approve a change when many other school boards have also approved it. Teachers are not likely to undertake the intensive study needed to pass their board examinations before they know how much more school systems will pay teachers who pass these examinations. School systems are not likely to pay an adequate differential to board certified teachers unless the boards are launched with unimpeachable professional and public support. All of this requires national planning and publicity.[64]

For ten years prior to 1962, the Ithaca, New York School District functioned under a merit rating plan for teachers. The plan was so organized as to provide merit rewards based on evaluation of teacher performance by the district's administrators. The plan called for merit increments for two years beyond the maximum salary stipulated in the single salary schedule. Provisions for additional years beyond the maximum had been abandoned as the basic salary schedule had increased.[65]

A situation was found to have evolved in which nearly every teacher above the mandated scale was receiving,

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[63] Ibid.

[64] Ibid., p. 122.

[65] James I. Mason, "A Second Look at Merit," School Board Journal, 148 (April, 1964), 17-18.

annually, a top merit ranking. The evaluators were faced with the alternative of either giving a top rating to a teacher or withholding a salary increment. The board of education questioned the validity of a procedure in which each teacher on the merit program received a top-rating.[66]

A joint committee of board members and school personnel was formed in Ithaca for the purpose of developing a plan which would retain the merit factor and simultaneously correct the perceived weaknesses in the distribution procedure. The committee generated criteria for the awarding of merit incentives. The criteria were categorized as follows:[67]

Training and experience	20 percent
Evaluation	40 percent
Professional Growth	40 percent

A significant aspect of this plan is that although the evaluation procedure had caused previous difficulties, it was retained and alloted high-priority.

A doctoral study conducted by Gibson attempted to determine if there existed certain practices in the planning stages of teacher merit salary programs which directly influenced the ultimate success of the plan.[68]

Supervisory and administrative personnel, experienced in the execution of merit rating programs, were surveyed by Gibson in thirty-three eastern school districts operating

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[66] Ibid., p. 17.

[67] Ibid., p. 18.

[68] Robert C. Gibson, "Paying for Pedagogical Power," Phi Delta Kappan, 42 (January, 1961), 148-151.

under merit provisions. The respondents were asked to: (1) identify what was done in planning for merit salary; and (2) evaluate the influence of each planning step upon the eventual success of the merit salary system. Gibson summarized his conclusions, based on the findings of the study, in the form of four sequential phases.[69] (See Appendix C pp. 183-185)

According to Gibson, two generalizations may be generated on the basis of his research. The first conclusion is that individual teacher merit salary plans can function in an effective manner if favorable conditions are present. The second factor he determined is, that for a successful merit plan to be realized, adherence to a logical sequential procedure of implementation is necessary.[70]

Characteristics of Teacher Merit Plans

Karam studied merit salary programs in public schools on the national level. He attempted to determine some indication of the motivation behind initial involvement with teacher merit pay. A secondary aspect of Karam's work was to attempt to establish the general characteristics of the teacher merit plans which were then in operation.[71]

Several of Karam's findings are beneficial in the development of an understanding of merit practices from a

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[69] Ibid., pp. 149-150.

[70] Ibid., p. 151.

[71] Karam, loc. cit.

nation-wide perspective.[72] (See Appendix D pp. 190-192)

Reasons for Abandonment of Teacher Merit Plans

The Journal of Teacher Education elicited responses from representatives of several school districts where merit salary plans had been attempted and then abandoned. Selected responses, as quoted in the Journal, serve to provide an overview of the rationale which supported the decisions to exclude merit salary provisions.[73]

Nelson presented the historical development of the merit rating program in the District of Columbia. As explained by Nelson, the program was eliminated because:

> In June,1950, after three years of experience with the incentive salary plan, the superintendent and administrative officers concluded that the plan was not necessary, that it disturbed professional morale and that it was almost impossible to administer.[74]

The Kansas City, Missouri, School District's reasons for abandoning a merit salary plan were presented by Hazlett:

> Among the basic factors influencing the abandonment of the merit rating plan were the following: (1) subjective evaluation of the quality of instruction; (2) arbitrary limitation of the numbers eligible for any one classification; (3) misunderstanding among teachers within school faculties; and (4) misinterpretations of the true role of the principal in the improvement and supervision of instruction.[75]

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[72] Ibid., pp. 146-147.

[73] "Why Merit Salary Schedules Were Abandoned," Journal of Teacher Education, 8 (June, 1957), 187-191.

[74] Ibid., p. 187.

[75] Ibid.

The inequities found to be present due to evaluator bias were cited by Munro as influencing the decision made by the Lynchburg, Virginia, School District:

> [A merit schedule] obtained in Lynchburg for at least forty years, but the request for its discontinuance was almost unanimous as far as the staff was concerned. Their objection to it did not include personalities but was due to their conclusion that it was well nigh impossible for the work of teachers to be impartially rated.[76]

Quincy, Massachusetts functioned under a simplified merit rating plan. Gossard noted the reasons for it being judged an undesirable aspect of the salary program:

> . . . Quincy . . . some years ago . . . gave additional salary to outstanding teachers. This plan was dropped in 1945 when a thorough-going salary survey was made under the direction of Professor Alfred Simpson of Harvard . . . . Certain teachers were ajudged to be superior and were allowed an extra $100 per year in salary. It is alleged by many of the people who were here while the plan was in operation that the selection of teachers was quite subjective. Possibly one-third of the teachers received the added $100 a year. The plan started around 1918.[77]

A Representative Teacher Merit Salary Plan

The concluding section of the literature review on teacher merit rating is devoted to a description of the merit salary plan in the Weber (Utah) School District. The intended purpose of such a description is to present a relatively detailed overview of the general form assumed by merit salary programs, when the merit rating concept is applied in practical situations.

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[76] Ibid., p. 188.

[77] Ibid., p. 190.

The Weber School District was selected as representative of the general class of merit-involved school districts because of the basic similarity between the Weber Plan and teacher merit plans in several other districts.

The involvement of the Weber School District with a merit type salary schedule resulted from the establishment, in 1954, of the Utah School Merit Study. The State Legislature, in acting upon a recommendation by a special school survey committee, authorized investigation aimed at determining the feasibility of merit salary programs for professional school personnel in Utah.[78]

The merit committee posed three major questions for the involved districts to attempt to answer: (1) Can teaching be defined and described? (2) Can teaching be evaluated with objectivity and validity? (3) If the first two problems are successfully solved, can such evaluation be satisfactorily related to the salary program?[79]

In 1958, with the approval of the professional staff, the Weber School District became initially involved as a participant in the merit study.[80]

The salary policy, which was developed to include the merit component, contained the following basic provisions as

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[78]Bernard S. Furse, "Merit Pay Is Feasible and--Sometimes--Desirable," Phi Delta Kappan, 42 (January, 1961), 143-147.

[79]Ibid., p. 145.

[80]Ibid., p. 146.

reported by Steffensen:

1. Credit for prior service to determine initial placement on the salary schedule . . . on a basis which equates placements with years of prior teaching experience.

2. The earning of an advanced degree is a determinant of a salary differential. The degree must be in a field of study which is directly related to the teacher's present, or probably future assignment.

3. There is a probationary period for the establishment of eligibility to receive a merit award. The period is two years of service in Weber.

4. There is no quota on the number of individuals who may receive a merit award.

5. Participation in the merit schedule is voluntary, dependent upon a contractual agreement by the teacher.

6. The amount of the annual merit award is predetermined.

7. The salary schedule consists of three columns--the B.A. column, the B.A. plus 30 quarter hours, and the M.A. column. Maximum salaries are reached in 14 years.

8. The merit award is entirely supplementary to the salary schedule.[81]

Weber's evaluation process attempted to quantify, or measure, teaching effectiveness. Those teachers involved in merit evaluations were evaluated by two-man observer teams. The formal observations took place approximately eight times during the school year. The two-man teams usually consisted of the teacher's principal and another supervisor, principal,

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[81]James P. Steffensen, Merit Salary Programs in Six Selected School Districts, U. S. Department of Health, Education, and Welfare, Office of Education, Bulletin 1963, No. 22 (Washington, D. C.: Government Printing Office, 1963), p. 27.

or consultant. The duration of each observation was thirty to forty minutes.[82]

The procedure followed during evaluative observations has been described by Furse:

> Some observations are made by appointment; others are not. One observer utilizes the revised Cornell Observation Schedule and codes his observations at five-minute intervals. Following the observation, the notes are coded independent of the other observer's record. From the two independently coded records, a third consensus composite is made. Following the observation, one observer confers with the teacher to review the observation record.[83]

Furse also noted that attempts were made during two or three of the observation periods to measure student response through use of the Rose Pupil Behavior Instrument.[84]

The data collected by the observers were treated statistically and transferred to individual and master recording charts.[85]

Teachers involved in the evaluations for merit were given the opportunity to meet with a member of the observation team. At this time, any comments the teacher might wish included in the file were prepared.[86]

Other factors which influenced the decision regarding the granting of merit rewards included: national teacher

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[82] Furse, op. cit., p. 146.

[83] Ibid.

[84] Ibid.

[85] Ibid.

[86] Ibid.

examinations; pupil achievement tests; a recorded statement of teacher-time spent in out-of-class activities; a personnel data sheet of education, experience, writings, etc.; and a teacher's "List of Imposed Variables," which included factors which the teacher perceived as limiting his or her effectiveness and over which he or she had no control.[87]

The standard for effective teaching at Weber was based upon the degree to which the teacher adequately considered the following variables: (1) maturity and abilities of the child; (2) teacher-guidance in showing or arranging conditions for self-discovery or how to accomplish goals effectively; (3) goal-directed drill and practice; (4) perception of the effects of provisional trials; (5) provision for generalization and transfer; (6) motivation; and (7) freedom from anxiety and distorting activities.[88]

The degree of teacher effectiveness was evaluated almost entirely in terms of teacher classroom behavior. Extra-class activities were evaluated on a defined time variable. These extra-class activities were limited to school activities.[89]

The amount of the annual merit increment was set at $500.00 for the 1962-63 school year in Weber.[90]

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[87] Steffensen, op. cit., pp. 42-43.

[88] Ibid., p. 43.

[89] Ibid.

[90] Ibid., p. 28.

Recent correspondence with Dr. John, Assistant Superintendent of the Weber School District, has revealed that the above described merit program has been abandoned. Difficulty in securing sufficient funds from the Utah Legislature was cited by John as the reason for abandonment.[91]

According to John, the Weber District has replaced its merit program with a plan termed, Leadership Pay. Teachers selected by the administrative staff and the Teachers Association are considered for this reward. Qualification for Leadership Pay requires that a teacher be performing in a leadership role and working an extended period of time.[92]

John has listed suggestions he believes will assist school districts contemplating the institution of merit rating for teachers.[93] (See Appendix C pp. 186-188)

Summary

Prior to 1920, teachers' salaries were usually determined through a process of individual bargaining between the teacher and the school board. Supposedly, those teachers who performed in a more competent manner received higher salaries. Many inequities were found to result from this

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[91]Based on personal correspondence between Dr. LaVerd John, Assistant Superintendent of the Weber School District, and the writer.

[92]Ibid.

[93]Ibid.

practice, and so, in the 1920's, the single salary schedule came into prominence and began its rapid growth. It was anticipated by both teachers and school boards that the single salary schedule would serve to correct the inequities produced by individual bargaining.

The transfer to single salary schedules did not serve to eliminate support for the merit concept, however, and teacher merit rating continues to be a controversial topic. Commonly expressed contemporary opinions regarding merit rating display a marked similarity to those arguments offered nearly forty years ago. Many of the anti-merit faction tend to support the merit concept but feel that it is currently impossible to fairly implement it. Two of the most frequently offered arguments against teacher merit rating are: (1) objective, accurate means of assessing teacher effectiveness are non-existent; and, (2) teacher merit rating produces competition among the members of a staff, which results in divisive behavior.

Proponents of individual teacher merit rating contend that the concept is workable. They have proposed several plans and listed suggestions to assist in the implementation of merit programs. These proposals and suggestions are usually based upon practical experience, or conceptually generated through a review of the literature pertaining to attempted merit programs.

Various teachers' organizations have voiced almost

unanimous opposition to teacher merit salary plans. Their major objection is focused upon the means by which teachers are evaluated for merit purposes.

Numerous school districts have attempted to function under various teacher merit plans. Many of these districts have abandoned their merit programs. The prime causes for abandonment continue to be difficulty in the development of acceptable evaluation procedures and the tendency for such plans to result in teacher conflict due to competition.

A typical teacher merit plan was implemented in Weber, Utah. The finalized plan was preceded by a process of study and planning on the part of the school district personnel.

Recent information regarding the Weber plan has disclosed that the plan has been abandoned. The lack of sufficient legislative appropriations has been cited as the reason for abandonment.

CHAPTER III

EVALUATION OF TEACHER EFFECTIVENESS

Introduction

The evaluation of teaching effectiveness appears to be characterized by a lack of any general agreement as to the factors comprising the context in which evaluation should take place.

Opinions expressed by participants in the Pi Lambda Theta Catena II, provide an indication of the divergent viewpoints which are held. One participant believed that "evaluation must occur in a relatively broad context. The nature of the larger society in which teaching-learning takes place and the given culture in which pupils hold membership, . . . may have great bearing both upon approaches to instruction and upon how teaching should be evaluated." Another point of view held that "the functioning of a school as a whole may be a better indicator of effective teaching than assessment of the merits of individual teachers." An additional view expressed by a participant suggested that "the classroom itself is the primary context in which teaching should be evaluated. And in some cases, the context would be limited to certain instructional activities that are carried on by

the teacher in the classroom."[1]

The colloquy participants not only expressed differences of opinion regarding the proper context in which teaching should be evaluated, they also held divergent views as to what criteria should be used in the evaluation of teachers. Pupil outcomes was proposed as the appropriate criterion by one member, who contended that "according to one's particular concept of teaching, these outcomes would range from the total behaviors that the pupil exhibits both within the school and outside of school to the specific subject-matter learnings that he acquires." From another participant's perspective "the ability of the teacher to adhere to tested ways of handling subject-matter content" was viewed as appropriate. An additional criterion which was suggested was:

> the characteristics of teachers considered in a relatively broad sense. Personality characteristics and various kinds of teacher competencies, including measures of subject matter preparation . . . motivating and reinforcing behavior, organizing and managing behavior, counseling and advising behavior, and so on.[2]

The variety and quantity of factors which demand consideration in a study of the evaluation of teacher effectiveness has resulted in confusion. Redfern presented one source of this confusion:

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[1]Pi Lambda Theta, The Evaluation of Teaching, A Report of the Second Pi Lambda Theta Catena (Washington: Pi Lambda Theta, 1967), p. x.

[2]Ibid., p. xi.

> Is it the teacher or his performance that should be appraised? Experience shows that a satisfactory answer to this question is not always found before appraisal is undertaken. This accounts for confusion, if not for obstacles, in obtaining gratifying and lasting results. There is considerable experience to support and the view that the valid appraisal of the teacher, as a person, is most difficult.[3]

Fishman analyzed and contrasted the evolution of teacher evaluation in Europe and America. According to his findings, the investigation of the personal qualities of teachers has produced less than satisfactory results. Fishman observed that:

> The evaluation of teaching effectiveness in the United States has concentrated most, it seems to me, on teacher characteristics and behavior. This is a logical area for evaluative attention but not only is it one that Eastern European Jewry roundly disregarded but, more importantly, it is not an area that has responded easily to our own research efforts . . . .[4]

Fishman conceded that the methods a teacher uses are important to the learning process but noted that "we cannot yet say just what it is that the effective teacher is or does."[5]

The determination of teacher competence was perceived by Biddle as a near impossibility, because "no one knows what a competent teacher is . . . few if any facts seem to have been established concerning teacher effectiveness, no

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[3] George B. Redfern, How to Appraise Teaching Performance (Columbus: School Management Institute, 1963), p. 8.

[4] Joshua A. Fishman, "Cross-Cultural Perspective on the Evaluation of Guided Behavioral Change," in Pi Lambda Theta, op. cit., p. 24.

[5] Ibid.

approved method of measuring competence has been accepted, and no methods of promoting teacher adequacy have been adopted."[6]

Biddle cited two major causes for the current lack of knowledge about the effectiveness of teachers: (1) confusion; and (2) complexity of the problem.[7]

The confusion was seen as resulting from the reluctance of some administrators to recognize the problem of effectiveness at all. Also, many teachers tend to view their performance in a classroom as a highly personal affair and not an appropriate subject for educational research. The problem was viewed by Biddle as being compounded because of school administrators who are convinced of their ability to judge teacher competence and see no reason for research on the subject. According to Biddle, "until the effects desired of the teacher are decided upon, no adequate definition of teacher competence is possible."[8]

The complexity of the problem was viewed as centering upon the inability to discriminate between teacher effects and effects of other teachers, parents, or alternate situations.[9]

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[6]Bruce J. Biddle, "The Integration of Teacher Effectiveness Research," Contemporary Research on Teacher Effectiveness, ed. Bruce J. Biddle and William J. Ellena (New York: Holt Rinehart and Winston, 1964), p. 2.

[7]Ibid., p. 3.

[8]Ibid., p. 4.

[9]Ibid., pp. 4-5.

Stake contended that "there is little knowledge anywhere today of the quality of a student's education."[10] He viewed school grades as being based on the private criteria and standards of the individual teacher. Standardized tests were also felt to be inadequate since they tell where an examinee performing "psychometrically useful" tasks stands with regard to a reference group. Stake could discern little insight being gathered as to the level of competence at which the student performs scholastic tasks.[11]

Barr argued that the numerous factors which comprise the teaching process tend to make investigation difficult:

> Part of the difficulty associated with the development of an adequate program for the measurement and prediction of teacher effectiveness arises from the facts that teaching means many different things, that the teaching act varies from person to person, and from situation to situation.[12]

The variety of conceptualizations pertaining to both teaching and evaluation were cited by Barr as initial sources of confusion. As a first-step in the clarification process, he proposed that "one must define teaching before it can be evaluated and effectiveness predicted."[13] This lack of a

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[10]Robert E. Stake, "The Countenance of Educational Evaluation," Current Research on Instruction, ed. Richard C. Anderson and others (Englewood Cliffs: Prentice-Hall, Inc., 1969), p. 355.

[11]Ibid., p. 356.

[12]A. S. Barr and others, Wisconsin Studies of the Measurement and Prediction of Teacher Effectiveness (Madison: Dembar Publications, Inc., 1961), p. 1.

[13]Ibid.

generally agreed upon definition was also seen as affecting the development of a common criteria for evaluation. Barr noted:

> The opinions are so varied among teacher educators, administrators, and teachers that each person can be said to have a more or less private system of evaluation all of his own. This is not a mere statement of opinion but a matter that has been amply substantiated by research.[14]

Hamachek contended, however, that "I think we do know what the competent--or effective, or good, or whatever you care to call him--teacher is . . . ."[15] His position was founded on the criterion of specified personal characteristics of teachers. In supporting his views, he stated:

> In essence, I think the evidence is quite clear when it comes to sorting out good or effective from bad or ineffective teachers on the basis of personal characteristics. Effective teachers appear to be those who are, shall we say, "human" in the fullest sense of the word. They have a sense of humor, are fair, empathetic, more democratic than autocratic, and apparently are able to relate easily and naturally to students on either a one-to-one or group basis. Their classrooms seen to reflect miniature enterprise operations in the sense that they are more open, spontaneous, and adaptable to change.[16]

The origin of the formal evaluation of teaching has been related to late nineteenth century school practice and the efficiency movement of the early twentieth century. The influence of Taylor's concept of scientific management

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[14] Ibid.

[15] Don Hamachek, "Characteristics of Good Teaching and Implications for Teacher Education," Phi Delta Kappan, 51 (February, 1969), 341-345.

[16] Ibid., p. 341.

motivated schools to adopt social surveys, school surveys, and various other methods aimed at the measurement of teaching. These procedures were accorded greater public acceptability by the analogy to scientific management in industry. The school surveys attempted to measure the efficiency of teaching, usually through use of the newly developed standardized tests of student achievement in areas such as arithmetic and handwriting.[17]

Davis observed that initially:

> . . . there was little interest in individual tests of individual teacher efficiency . . . . the growing use of individual efficiency ratings for teachers seems to have been stimulated by the efficiency movement, by interest in educational measurements, and possibly by fear of the surveys rather than by direct use of teacher ratings by the survey teams.[18]

Domas reviewed the literature pertaining to teacher effectiveness and concluded that:

> The consensus of opinion . . . was that measures of prerequisites do not measure teaching success, that there is need for objective information about teaching effectiveness, that there is a general lack of agreement concerning what makes a good teacher, and that no method as yet developed can be used as the sole measure of teaching success.[19]

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[17]Hazel Davis, "Evolution of Current Practices in Evaluating Teacher Competence," Contemporary Research on Teacher Effectiveness, ed. Bruce J. Biddle and William J. Ellena (New York: Holt, Rinehart and Winston, 1964), p. 44.

[18]Ibid., p. 45.

[19]Simeon J. Domas, Report of an Exploratory Study of Teacher Competence (Cambridge: The New England School Development Council, 1950), p. 12.

Perspectives of Teacher Effectiveness

Numerous factors influence the perspective from which one views the evaluation of teacher effectiveness. Ellena, Stevenson and Webb have discussed the inconsistencies in expectations for teacher effectiveness which may develop due to the divergence of local philosophies:

> . . . administrative officials may actually work with the school board, the teachers, and the community in attempting to determine what the functions of a teacher in the local school should be. The decisions of such groups may range from so rigidly specifying the functions and activities that little autonomy is left to the teacher, to stating functions so vaguely and broadly that virtually all is left to the judgement of the teacher. Whatever the position of the group, the definitions refer to teacher function only within a limited geographical area. . . . The job of the teacher thus varies according to the location of the job.[20]

According to Rabinowitz and Travers, unless one has made or is prepared to make a value judgement, there is no way to discover the characteristics which distinguish effective and ineffective teachers. The effective teacher is viewed as existing outside the realm of scientific investigation since "no teacher is more effective than another except as someone so decides and designates . . . ."[21]

It was argued by Ellena, Stevenson and Webb, however,

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[20]William J.Ellena, Margaret Stevenson and Harold Webb, Who's a Good Teacher? (Washington, D. C.: American Association of School Administrators, Department of Classroom Teachers, National School Boards Association, 1961), pp. 5-6.

[21]W. Rabinowitz and R. M. Travers, "Problems of Defining and Assessing Teacher Effectiveness," Educational Theory (March, 1953), 212-219, cited by Ellena, Stevenson and Webb, p. 37.

that the assumption that teacher effectiveness should be only whatever a community wishes it to be is a faulty one. The notion that teacher competence in practical situations becomes whatever people in the community think it should, tends to promote a situation whereby "one man's opinion is as good as another's and facts need not clutter the free exercise of fancy."[22]

Mitzel applied the term criterion to any set of observations that may be used as standards for evaluative purposes. He contended that a criterion measure cannot necessarily be any dependent variable which happens to be available. The stipulation that a particular measure is a criterion lends to it connotations of worth and value. If criteria are trivial, subsequent evaluations must thus be made against trivial standards.[23]

The task of selecting relevant teacher effectiveness criteria has been made nearly an impossible one according to Mitzel. This difficulty has emerged because of a proliferation of school goals without accompanying agreement as to the relative importance of each.[24]

Biddle described the central problem in understanding teacher effectiveness as the need for establishment of a

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[22]Ellena, Stevenson and Webb, op. cit., p. 37.

[23]Harold E. Mitzel, "Teacher Effectiveness," Encyclopedia of Educational Research, ed. Chester W. Harris (3d ed., New York: Macmillan Co., 1960), pp. 1481-1482.

[24]Ibid., p. 1482.

relationship between teacher behaviors and teacher effects. This perspective suggested to Biddle that two classes of variables are necessary for the study of effectiveness; teacher behaviors (an independent variable) and teacher effects (a dependent variable).[25]

Teacher properties were classified by Biddle as psychological traits, motives, abilities or attitudes which were said to relate to the competence of teachers. Difficulties in the formulation of an agreed-upon method for measurement has led to controversy as to which method is really measuring the specific property in question. According to Biddle, "even for such a well-established property as intelligence there remain discouragingly low correlations among the most accepted measurement techniques."[26]

It was observed by Biddle that the traditional approach to the study of competence called for the selection of general dimensions or traits of teacher behavior that "are hypothesized (in rare instances found) to produce given effects in pupils."[27] Atkin argued that the two most popular methods of conducting research on teacher effectiveness, the psychological approach and the engineering model, both

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[25]Biddle, op. cit., p. 5.

[26]Ibid., p. 10.

[27]Ibid., p. 12.

possess major inadequacies.[28]

It was proposed by Atkin that too much emphasis on behavioral science techniques often results in problems being investigated which bear little resemblance to classroom practice. Excessive reliance on "hard measures" of behavioral change tends to result in the manipulation of insignificant variables, since many of the most important educational changes cannot be measured. There is also a tendency among researchers to refine their statistical procedures while failing to focus upon crucial problems. The lack of relevance to education results from the researchers operating from a theoretical basis other than education. Atkin observed that "it is naive to expect that a significant amount of such research, considered in isolation, discipline by discipline, will affect educational practice."[29]

Atkin noted that the engineering model "on the surface . . . seems a most appealing model for educational research and development activities."[30] This approach requires the identification of performance objectives toward which the system should be directed. The system is then designed so that the objectives will be economically

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[28]J. Myron Atkin, "Research Styles in Science Education," Current Research on Instruction, ed. Richard C. Anderson and others (Englewood Cliffs: Prentice-Hall, Inc., 1969), pp. 33-41.

[29]Ibid., pp. 34-35.

[30]Ibid., p. 36.

realized. Examination of this approach led Atkin to propose what he felt were major shortcomings: (1) no recognition of the competition among diverse value systems and power groups--no consensus on specific ends exists in education; (2) difficulty exists in the quantification of values and social outcomes; and (3) failure to recognize that existing systems in education cannot be discarded as easily as in space and military programs.[31]

Mitzel identified three major classes of teaching effectiveness criteria. He termed these classes: (1) product criteria, (2) process criteria, and (3) presage criteria.[32]

Product criteria are dependent for their definition upon a set of goals toward which teaching is directed. These goals may be stated in terms of changes in behavior on the part of students.[33]

Mitzel believed that although advances had been accomplished in educational measurement, satisfactory tests of achievement existed only in a few of the basic skill areas. Adequate measures of social and emotional adjustment, cultural appreciations, and attitudes essential to democratic living were not available.[34]

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[31] Ibid.

[32] Mitzel, loc. cit.

[33] Ibid., p. 1483.

[34] Ibid.

The lack of research directed toward product criteria was unjustified according to Mitzel:

> Considering the theoretical importance of product criteria in the assessment of teacher effectiveness, it is surprising that so few studies have used some measure of student growth as the operational definition of teacher competence.[35]

Process criteria were defined as those aspects of teacher and student behavior which are believed to be worthwhile in their own right. They are not necessarily directly related to the primary goals of education, though their presence in the classroom is assumed to have mediating effects on the product criteria. Process criteria are usually described and measured in terms of conditions, climates, or situations involving social interactions between teacher and pupil.[36]

Student and teacher behavior as process criteria must be examined as an interacting whole. According to Mitzel, this interaction appears to be vital to the learning process. The complexity of teacher-learning situations provides a basic difficulty in the utilization of process criteria for the evaluation of teacher competence.[37]

Presage criteria were termed by Mitzel "pseudo criteria" since their relevance is dependent upon an assumed or conjectured relationship to other criteria. He contended

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[35] Ibid.

[36] Ibid.

[37] Ibid., p. 1484.

that presage criteria are removed from the goals of education and that only precedent enables their consideration as criteria. This precedent is founded in much of the research on teacher competence in which dependent variables, categorized as presage by Mitzel, were employed.[38]

Four types of presage variables were indicated as commonly used in teacher effectiveness research: (1) teacher personality attributes; (2) characteristics of teachers in training; (3) teacher knowledge and achievement; and (4) in-service teacher status characteristics.[39]

Worcester argued that the value of the observation of teacher behavior is dependent upon the evidence that the observed behavior will actually have an effect on the pupil, which will result in the desired learning. He described evidence pertaining to the effects of teacher behavior as "scanty" and noted that any agreement between various observers may indicate only congruence of a particular philosophy or psychology of education.[40]

Surprise was expressed by Worcester over the lack of attention devoted to actual methods of teaching and the direction of learning, on teacher rating scales. He observed that:

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[38] Ibid.

[39] Ibid.

[40] D. A. Worcester, "Some Assumptions Explicitly and Implicitly Made in the Investigations Here Summarized," in Barr, op. cit., p. 127.

> Rather, the observer usually notes personality characteristics, if the teacher is alert, if she appears enthusiastic and cooperative, if she seems to be interested in the children, if she has good discipline, if she is forceful and the like.[41]

Barr noted that the criterion of teacher effectiveness based on pupil growth and achievement is considered by many individuals as the primary criterion against which all other criteria should be validated.[42]

Certain limiting factors of this position were described by Barr as being worthy of consideration. A primary difficulty he identified was the lack of congruence between the gains tested and the instructional goals of the teacher. Testing instruments may be valid and reliable, in highly generalized situations, but may not be consistent with the demands of a particular situation or the teachers' purposes. An additional limiting factor is the inability of tests to validly and reliably measure the major purposes of school education. The areas of problem solving, personality development, mental health, aesthetic learning and emotional growth were viewed by Barr as suffering from inadequate means of measurement. Test results also fail to indicate how effects were produced. They are directed primarily at results at the exclusion of information on means. Another limiting factor is the difficulty in isolating the effects of a single teacher from the effects of other teachers,

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[41] Ibid.

[42] Barr, op. cit., p. 13.

pupils, and parents.[43]

Ellena, Stevenson and Webb supported the position assumed by Barr on pupil-growth criterion as a means of determining teacher effectiveness. They argued that although educational measurement has displayed continued growth for over fifty years, satisfactory tests of achievement exist in only a few of the basic skill areas. Adequate measures of social and emotional adjustment, cultural appreciations, or attitudes essential to democratic living are as yet not available.[44]

The difficulty encountered in determination of the degree of effect an individual teacher has on pupil-growth was proposed by Ellena, Stevenson and Webb as a problem which is far from solution. They noted that:

> Many influences shape pupil growth: home, community, clubs and organizations, various media of communication, books, magazines, and libraries are but a few of these influences. Also, the pupil was subjected to the influence of other teachers in the past. The problem of disentangling these influences becomes difficult indeed. Though elaborate statistical and experimental methods have been developed, there is no one who can demonstrate a scientific way of making effective use of the pupil-gain criterion in measuring teacher effectiveness.[45]

Laurits' argued that consideration of the effectiveness aspect is aided by elimination of the model of a school as a collection of individuals who can be evaluated and ordered in rank. He contended that "properly seen, the

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[43] Ibid., pp. 13-14.

[44] Ellena, Stevenson and Webb, op. cit., p. 19.

[45] Ibid.

school is a social system whose purposes lend themselves directly and uniquely to the continual growth and development of the members."[46]

From Laurits' perspective, the school is characterized by three general levels at which analysis might be directed. The levels are: (1) self-contained classroom, or teacher working alone; (2) teaching team; and (3) entire school.[47]

It was Laurits' contention that a valid and thorough evaluation could be realized only through investigation of the effects of the entire school on the individual. He noted:

> . . . the school, properly viewed, is special, different from the family, different from a group of pals, different from the baseball team. The school is staffed with specialists, it commits itself to a concern for all parts of the students' behavior, it means to create a place for the student, to shape itself to some extent because that student is present.[48]

Methods of Evaluation

Davis reported on an early study, conducted in 1915, by Boyce. The purpose of the study was to survey current practices related to teacher rating in public school systems. Boyce found that the quantity of items on which teachers were rated on their level of efficiency ranged from two to eighty.

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[46]James Laurits, "Thoughts on the Evaluation of Teaching," in Pi Lambda Theta, op. cit., p. 35.

[47]Ibid., p. 36.

[48]Ibid.

Four major types of analysis were found: (1) descriptive reports dealing with specified points; (2) lists of questions to be answered yes or no; (3) lists of items to be evaluated by a stated classification, for example, excellent, good, medium, unsatisfactory; and (4) lists of items to each of which was assigned a definite numerical value representing the maximum score that might be given.[49]

Davis indicated that four basic methods of determining teacher efficiency emerged from Boyce's analysis: (1) Promotional examinations--6%; (2) Schedule of qualities on which teachers are judged--55%; (3) Efficiency grades for teachers--41%; (4) Judgement of teachers not controlled--41%. In summarizing the qualities of the teacher evaluated in fifty of the rating schemes, Boyce found that discipline led all other areas, being included in 98% of the forms. Next in frequency were instructional skills and cooperation and loyalty, each being cited in 60% of the forms.[50]

By way of contrasting evaluation practices in terms of development over a period of time, Davis also reported on a survey conducted by the Research Division of the National Education Association. The survey examined school personnel practices in 1961-62. The forms examined were

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[49]A. C. Boyce, "Methods of Measuring Teachers' Efficiency," 14th Yearbook, National Society for the Study of Education, Part 2 (Chicago: University of Chicago Press, 1915), cited by Davis, op. cit., pp. 48-49.

[50]Ibid., p. 49.

analyzed in terms of the methods of evaluation used, and in the case of check scales, the number of intervals in the scale of possible judgements set by the forms.[51]

Four primary types of evaluation were found: (1) multiple-factor check scales; (2) general-factor check scales; (3) structured comments; and (4) nonstructured comments. Eighty percent of the forms included multiple-factor check scales, and forty percent no other method. The multiple-factor check scales provide for the recording of a judgement according to a scale on the form. The general-factor check scales provide for the evaluation of the total-worth of the teacher by means of a single judgement.[52]

Davis noted the similarity between many of the evaluation forms in use in 1962 and the "efficiency record" published by Boyce in 1915. She stipulated, however, that the examination of the various forms "still does not bring us to the heart of the matter: the kind of teacher (or teaching) being held up as a model by the evaluation form."[53] She further noted that:

> A long standing issue among research workers has been the question as to whether evaluation should concern

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[51] National Education Association, Research Division, "Estimates of School Statistics, 1961-62," Research Report 1961--R 22 (Washington, D. C.: The Association, 1961), cited by Davis, op. cit., pp. 57-59.

[52] Ibid., p. 59.

[53] Davis, op. cit., p. 61.

> itself with the teacher or the teaching. In practice, this issue is clearly resolved: the teacher is evaluated.[54]

The literature on teacher competence was categorized by Domas according to the factors whose relationships to competence were investigated or discussed. His analysis resulted in the following categories:

> (1) traits of teachers; (2) students' opinions and ratings of teachers; (3) procedures and techniques used by teachers; (4) pupil growth or student progress; (5) personality type of teacher; and (6) combinations of two or more of the foregoing categories. Many references in the literature, however, did not fit readily into any of the preceding categories. These included: (7) comments on other studies; (8) rating scales, score cards and tests; and (9) miscellaneous references.[55]

The latter group identified by Domas consisted of such entries as supervision, duties of principals, teacher certification, admission to teachers colleges, and salary policies.[56]

Ryans proposed two general empirical approaches to the problem of determining criteria for evaluation of teacher effectiveness. He suggested that evaluation may be accomplished either through direct observation of the teacher or through observation of the product of the teacher's efforts, the pupils. Ryans observed that:

> Of the two, ratings of the teacher probably has been the most frequently employed. If we are going to judge someone, or something, our first thought is of direct

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[54] Ibid., p. 62.

[55] Domas, op. cit., pp. 8-9.

[56] Ibid., p. 9.

> observation. On the surface, at least, it also appears less difficult to attempt the rating of teachers than to consider the more complex methodological and statistical problems associated with measurement of pupil change. And ultimately, of course, experience has taught us that most valid information must begin with subjectively derived judgements. So we often turn to teacher ratings in studying the teacher.[57]

Ellena, Stevenson and Webb categorized all evaluations as either formal or informal. Within this context they identified three basic techniques for the appraisal of teacher performance: ratings, observations, and measurement of student gains.[58]

Ratings may take the form of an over-all estimate of teacher effectiveness or may be comprised of evaluations of teacher behaviors and traits. The teachers' peers, students, or staff personnel may determine ratings. The percent of efficiency may be ranked, the level of trait may be indicated, forced choice or various other factors may be involved. Ratings usually include judgements based on observation and an informal observation of student gains.[59]

Observations were described as usually conducted by school officials within the classroom setting. This technique is seldom the only judgemental basis for teacher effectiveness and, as noted by the authors, "it is seldom used in

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[57]David G. Ryans, "The Criteria of Teaching Effectiveness," Journal of Educational Research, 42 (May, 1949), 692-693.

[58]Ellena, Stevenson and Webb, op. cit., p. 61.

[59]Ibid.

an objective, scientific fashion."[60]

The measurement of student gain, by standardized tests, to evaluate teacher effectiveness was described as appropriate only under extensive controls and adjustments to compensate for factors other than teacher influence.[61]

The application of the above described methods of evaluation were not pictured by Ellena, Stevenson and Webb as contributing factors to the study of teacher effectiveness. They stated:

> There is no concern about adding to the fund of knowledge about teacher effectiveness to the extent that it can be predicted and explained accurately. Local concerns are usually limited to "what" questions. "Why" and "how" questions are more likely in the domain of the researcher.[62]

Reavis and Cooper conducted a study of rating devices used in public school systems. Their analysis was based on examination of 1538 items found in 85 different rating scales. Ninety percent of these items were related to teacher characteristics or behavior. The remaining ten percent were directed toward the evaluative criterion of pupil results.[63]

Based on their analysis and support found in pertinent literature they received, Reavis and Cooper concluded

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[60] Ibid.

[61] Ibid.

[62] Ibid.

[63] W. C. Reavis and D. H. Cooper, Evaluation of Teacher Merit in City School Systems. Supplementary Educational Monographs, Number 59 (Chicago: University of Chicago, 1945), cited by Davis, op. cit., p. 54.

that:

> Ratings appear to be invalid, then, as comprehensive measures of either general or specific teaching ability. There still remains for them, however, the sphere of personal opinion . . . . It is apparent that ratings are valid measures of the rater's opinion of a teacher.[64]

Worcester summarized his investigation of methods used for rating teacher behavior and characteristics, by observing that few ratings were found which pertained to behaviors related to teaching and learning as such. He proposed that:

> The assumption has seemed to be that if the teacher has a friendly personality and respects the personality of the pupil and that if she is active, enthusiastic, and in good standing with the others of the school personnel and in the community, then she is an effective teacher.[65]

Rating scales were found by Ellena, Stevenson, and Webb to be the most commonly used device for assessing teaching behavior. They were able to discern no clear delineation regarding what relevant teacher behavior is. Rating devices were characterized as being implemented as "a widespread net in the hope of catching some of the unsuspected variables."[66] An additional aspect of rating scales deemed significant by the authors is their dependence upon the value orientation and goals of the raters. Since a definitive criteria for teacher effectiveness does not exist, the rater must depend upon his personal views when evaluating

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[64] Ibid.

[65] Worcester, op. cit., p. 127.

[66] Ellena, Stevenson and Webb, op. cit., p. 29.

with scales.[67]

Domas traced the development and application of teacher rating scales, score cards and tests. His findings were summarized by the following generalizations:

> The consensus of opinion in the comments upon these devices was that no single device is suitable as a sole predictor or measure of teacher competence, that there are many inconsistencies in ranks and weights of items, and that there is an almost complete lack of knowledge concerning the validity of any of these devices.[68]

Ryans developed a listing of factors which pertains to the relationship between teacher characteristics, as predictors, and teacher effectiveness. The criterion for teacher effectiveness was abstracted from various criterion measures which were cited in the literature. His listing included:

> Measured intellectual abilities, achievement in college courses, general cultural and specific subject matter knowledge, professional information, student teaching marks, emotional adjustment, attitudes favorable to students, generosity in appraisals of the behavior and motives of other persons, strong interest in reading and literary matters, interest in music and painting, participation in social and community affairs, early experiences in caring for children and teaching . . . history of teaching in family, size of school and size of community in which teaching, cultural level of community, and participation in avocational activities.[69]

Ryans observed that the above listed characteristics seem to be associated with certain dimensions of teacher

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[67] Ibid., p. 31.

[68] Domas, op. cit., p. 13.

[69] David G. Ryans, "Prediction of Teacher Effectiveness," Encyclopedia of Educational Research, ed. Chester W. Harris (3d ed.; New York: Macmillan Co., 1960), p. 1490.

behavior and teacher effectiveness. He noted, however, that the extent of the relationships has not been found to be high. He believed this may be due, in part, to the fact that the information gathered has usually been reported in terms of averages for groups of teachers and thus, any obtained relationship is limited.[70]

There were also several teacher characteristics cited by Ryans which appeared to have either little or a negative relationship to his abstracted criterion. Included among these factors were: (1) the extensiveness of general and/or professional education; (2) personal appearance; (3) grade or subject taught; (4) sex differences (at the elementary level); and (5) marital status. A negative relationship was indicated between the age of the teacher, the amount of teaching experience, and teaching effectiveness. He found some indication of a positive relationship between increase in effectiveness and experience during the early years of a teacher's career.[71]

The reliability of the judgements of various parties involved in the evaluation of teacher effectiveness was investigated by Ellena, Stevenson and Webb. Based on their examination of the literature, they proposed that administrative rating, while not only the most widely used measure of teacher competence, proved to be a reliable approach.

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[70] Ibid.

[71] Ibid.

Although administrative ratings usually produced correlations of .70 or above, they did not produce high correlations with measures of student gain. Those teacher traits more objectively observable or more independent of opinion were found to be less susceptible to logical error or halo effect. The authors suggested that ratings made by a single rater were apt to be contaminated by halo effects.[72]

Peer ratings were found to have been given limited application. Teachers tended to exhibit reluctance to express judgements regarding fellow teachers. Agreement was found between administrative and teacher ratings. Peer ratings also appeared to be subject to halo effects.[73]

Student ratings were moderately consistent. Their reliability increased as the number of ratings pooled, increased. The limited amount of available research on student ratings precluded the investigators from generalizing about the influence on student ratings of various factors.[74]

Teachers were found to rate themselves high when self-rating techniques were implemented. Their self-ratings showed insignificant relationship with administrative ratings, student ratings, or measures of student gains.[75]

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[72]Ellena, Stevenson and Webb, op. cit., p. 32.

[73]Ibid.

[74]Ibid.

[75]Ibid., p. 33.

Various other approaches to teacher evaluation took the form of student descriptions of best and poorest teachers, parent and teacher descriptions of the behavior of teachers they recalled as effective, and descriptions by educational leaders of what they perceive as effective and ineffective teacher behavior. Ellena, Stevenson and Webb did not view these approaches as having been productive or as showing promise of appropriate directions for future investigations.[76]

Ryans observed that the estimates of the behavior or achievement of students, which he termed product measurements, have been often described as desirable criterion data for teacher effectiveness. He determined the most defensible of the product measurement techniques to be:

> . . . (a) the direct observation and assessment of student behavior during exposure to the teacher, who is assumed to be at least a partial producer of student behavior . . .; and (b) measurement of student change from before to after exposure to the teacher-producer.[77]

The primary difficulties with evaluation of teacher effectiveness based on student behaviors and their products, resides in the variety of factors which may be influential in producing or contributing to student behavior or achievement. An additional hindrance to this approach is the difficulty in developing valid means of isolating and measuring the facets of the product-criterion. Ryans indicated,

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[76] Ibid., p. 34.

[77] Ryans, "Prediction of Teacher Effectiveness," p. 1487.

however, that such an approach to determining teacher effectiveness is potentially promising:

> . . . if the rationale of the product (student performance) criterion is accepted, and if the complex control problem presented by a multiplicity of producers and the multi-dimensionality of the criterion can be satisfactorily coped with, student change becomes an intriguing approach to teacher effectiveness.[78]

Research on Teacher Effectiveness

McCall and Krause conducted research directed at determining the effectiveness of teachers as measured by pupil growth. The criterion of effectiveness adopted for the study was the amount of pupil growth in the areas of reading, writing, arithmetic, research, reasoning, reporting, relationships of persons, recreation, and responsible work skills. The growths each teacher produced in these areas were combined and weighted according to importance into a single criterion-of-merit score.[79]

It was reasoned by McCall and Krause that factors such as I.Q., pupil drive, educativeness of home and community, class size, and attendance pattern would have an effect on the amount of pupil growth. Each of these areas were measured, the amount of influence determined, and allowances were then made for each. Through this process,

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[78] Ibid., p. 1488.

[79] William A. McCall and Gertrude R. Krause, "Measurement of Teacher Merit for Salary Purposes," Journal of Educational Research, 53 (October, 1959), 73-75.

a criterion-score-of-merit was determined for each teacher.[80]

The pertinent findings of this research may be summarized in the form of several brief statements:

1. The ratings of superintendents, supervisors, principals, and colleagues, all displayed the tendency to rate good teachers low and poor teachers high in terms of the criterion.

2. The only persons in the school found to be professionally competent to judge the worth of the teachers were their sixth-grade pupils (.36) and the teachers themselves (.39) when giving a confidential self-rating.

3. Training produced a correlation of (.13); years of service showed a zero (-.04) correlation with merit.

4. Young teachers averaged higher criterion scores than did older teachers.[81]

In citing implications apparent in their findings, McCall and Krause observed:

> The findings . . . would appear to invalidate a large number of researches which are based on the assumption that the worth of a teacher can be validly judged by superior officials, or based upon training, experience, and knowledge of the subject taught. This means that future research, employing a merit criterion, should use either pupils' growth as a criterion or some combination of teacher characteristics really known to correlate with merit.[82]

McNeil expressed dissatisfaction with the emphasis he felt was often placed on certain methods of determining teacher effectiveness. He argued that:

> There has been long resistance to the basal proposition that the effectiveness of methods and teachers must be

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[80] Ibid., p. 73.

[81] Ibid.

[82] Ibid., p. 75.

> measured in terms of the results secured . . . . Those responsible for evaluating teachers have exalted procedures in teaching and have seldom examined the products, i.e., the efficiency of the teacher as indicated by what his pupils can do following instruction. However, we are beginning to see an increasing number of bold proposals founded on the assumption that the American public expects results from schooling. As public support of education increases, there will be greater insistence on judging a teacher in the light of his ability to enhance the learning of pupils.[83]

According to McNeil, a desirable method of accomplishing teacher evaluation on a basis of educational results is through application of what he terms, supervision by objectives. This procedure requires that a supervisor and a teacher reach agreement as to what behavioral objectives are to be sought for particular pupils and what will be accepted as evidence that the teacher has succeeded in realization of the desired gain. The agreement between supervisor and teacher is developed prior to instruction by the teacher.[84]

In order to provide a test for his contentions, McNeil designed a study which incorporated the use of supervision by objectives. Three major hypotheses were tested: (1) "Supervisors will perceive teachers as more effective in classroom instruction." McNeil contended that many teachers are often successful in accomplishing changes in learning but have not received recognition due to lack of prior agreement between supervisor and teacher on the desirability of

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[83]John D. McNeil, "Concomitants of Using Behavioral Objectives in the Assessment of Teacher Effectiveness," Current Research on Instruction, ed. Richard C. Anderson and others (Englewood Cliffs: Prentice-Hall, Inc., 1969), p. 47.

[84]Ibid.

the results produced. (2) "Pupils will show greater gain in the desired directions when the teacher's reinforcement is contingent upon such pupil gains." And, (3) "Teachers will perceive supervisors' suggestions as more relevant and helpful." It was proposed by McNeil, that under a system of supervision by objectives, suggestions are viewed as means rather than ends.[85]

McNeil found that student teachers who functioned under supervision by objectives were rated by supervising teachers as having achieved greater success in teaching, as determined by pupil achievement, than members of the control group who functioned in a traditional manner. Supervisors also rated the experimental group as more successful in the understanding and use of principles of learning, as evidenced by subsequent grades they received in student teaching.[86]

A related study provided support for McNeil's second hypothesis. Student teachers were randomly assigned to two groups, with instructions for teaching language skills. The control group was advised that they would be evaluated on appearance, maturity, classroom arrangement, and teaching procedures. Experimental group members were advised that their evaluation would be based on their ability to select appropriate behavioral changes to be sought in learners, and

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[85] Ibid., pp. 47-48.

[86] Ibid., p. 49.

to effect those changes without undesirable by-products. "In essence these teachers were to be judged by their ability to get results."[87]

It was found that pupils taught by teachers in the experimental group achieved more than those taught by teachers in the control group. Pupils of teachers in the results-oriented group showed greater achievement, both in areas of deficiency and the remaining language skills measured by standardized tests.[88]

As a test for his third hypothesis, McNeil requested that the teachers involved in the previously described experiment, respond to the following items:

> . . . (1) amount of time spent in teaching punctuation skills during the period of evaluation, the extent of pressure, the amount of freedom to select own teaching procedures and the amount of time given to individual pupils as opposed to the class as a whole . . . . How would you prefer to be evaluated as a teacher--(a) by progress evidenced by my pupils (equating for their initial ability to learn), (b) by my ability to follow recommended procedures, (c) by my character, the extent to which I am a model for pupils, (d) by my ability to plan, (e) by my ability to work well with the faculty?[89]

Both groups reported approximately the same amount of time given to teaching task, felt free to select their teaching procedures, found supervisor suggestions helpful, and centered most of their time on the class as a whole. The teachers were nearly unanimous (98 percent) in their

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[87] Ibid.

[88] Ibid., pp. 50-51.

[89] Ibid., p. 50.

preference for the use of pupil progress as the criterion for evaluation of teaching.[90]

Proposals for Teacher Evaluation

Laurits proposed that the evaluation of teaching must evolve to a point where the school as a unit will be evaluated. He argued that this procedure must begin with the teaching team comprised of two or more teachers who have the same students and time to plan together and observe each other's performance. The team is also envisioned as incorporating interns, aides, counselors, and administrators. Laurits contended that "In a short time, as the team members study the individual student together, they can begin to see and to examine the wider horizons of the school itself."[91]

Evaluation is viewed by Laurits as becoming an integral factor in the teaching process:

> . . . teachers together plan a set of experiences for the child, observe the student's reactions, evaluate the process together, and decide on next steps. Evaluation is a part of teaching and is so employed as to continuously call for the improvement of the work. Evaluation of this order gives us a school of a different nature than the one where principal and department heads are the evaluators.[92]

Barr cited several factors he identified as critical to the realization of improved methods for the prediction and measurement of teacher effectiveness. Among the needed areas

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[90] Ibid., pp. 51-52.

[91] Laurits, op. cit., p. 38.

[92] Ibid.

of investigation he included: (1) the criterion of teacher effectiveness--differences exist due to the varied approaches and criteria of teacher effectiveness--these differences need resolution; (2) isolation of teacher influences; (3) separation of essential and non-essential factors of teacher behavior; (4) systematic listings of the expectancies relative to the teacher; (5) a definition of teaching; (6) tests which examine the teacher's comprehension of the teaching process; (7) identification of aspects of a situation that limit or facilitate teaching up to potential; (8) additional information pertaining to the biophysical determiners of human effectiveness; and (9) methods for assessing the appropriateness of the minute to minute decisions made by teachers.[93]

Fishman criticized what he identified as the attitudes of teachers regarding evaluation. He proposed:

> American teachers need to be much more personally accepting of evaluation than they now are. American teachers often react to the suggestion that they be graded and paid according to how well their pupils learn . . . as if they were being scalded by boiling oil or subjected to the greatest indignities. Why shouldn't teachers be evaluated in this way? We would like to evaluate physicians according to their patient's subsequent health record; . . . I see no reason for treating teachers differently, particularly as we find out more and more about why and how children do or do not learn. I rather suspect that teachers would be more innovating and more successful in handling the difficult contextual factors to which they and their efforts are exposed in much of modern America if this rule were applied in their case . . . .[94]

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[93]Barr, op. cit., pp. 147-150.

[94]Fishman, op. cit., p. 29.

Support for Fishman's position may be found in opinions expressed by Lessinger. He argued that although many results of education are subjective in nature and not easily audited, educators should deal with those aspects that do lend themselves to definition and assessment.[95]

Summary

Several authorities have described the current status of the evaluation of teacher effectiveness procedure as complex and confusing. A primary need which has been identified is that of a generally accepted definition of teaching. The lack of such a definition has been cited as a major reason for the failure to generate a common criteria for teacher evaluation.

Various schools of thought have tended to promote the evaluation of the teacher or teaching from the perspective to which they ascribe. Many believe that teacher behavior and teacher characteristics should be evaluated, others feel that the proper context for evaluation is found in examination of the performance of the teacher's students.

The research on teacher effectiveness has generally been described as limited in terms of indicating substantiated courses for the development of evaluation criteria. Relationships between teacher behaviors, characteristics and effects have yet to be determined. A limiting factor in the

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[95]Leon M. Lessinger, "Accountability for Results: A Basic Challenge for America's Schools," American Education (June-July, 1969), 4.

determination of these relationships, as well as other aspects of teacher effectiveness, has been identified as a segmented approach on the part of the involved researchers. The investigation of effectiveness from the particular disciplines of the researchers, often at the exclusion of educational theory, is viewed as an inefficient and unproductive approach.

Testing practices related to the measurement of teacher effectiveness have been criticized as inadequate. Measures of certain basic skill areas have been found to be increasingly valid and reliable. Appropriate tests of the affective realm have generally been deemed in need of further study.

The evaluation of teacher effectiveness in practical field settings has largely been accomplished through the use of rating forms, which rely on subjective judgements of the evaluator. Little indication of validity has emerged from studies of evaluation in which rating forms were used. Teachers were found to be presently evaluated much in the same manner and on the basis of the same criteria as they were in the early part of the century.

The evaluative criterion of student performance or growth has been sponsored by many parties. The chief criticism of this approach has been the inability to isolate the effects of a single teacher from the effects of other teachers, pupils, family, and general environment.

Evidence has been presented which indicates that the

most valid approch to the evaluation of teacher effectiveness may be measures of pupil growth. Additional research indicated that pupils achieve at higher levels, as measured by standardized tests, when teachers are aware they will be evaluated on the amount of learning demonstrated by their pupils. It was also found that the teachers preferred to be evaluated in this manner.

CHAPTER IV

GROUP DYNAMICS

Introductory Statement

Essential to those who advance a plan for dispensation of group rewards is knowledge of the behavior which may be anticipated on the part of group members as a direct result of the rewards. Initial examination of these reward effects may begin with a brief investigation of group membership from a social psychological perspective.

The writings of Mead and Kinch have detailed a social interactionist theory of self. According to this theory, the self is not perceived as a unity but as a process through which the individual identifies and characterizes himself as a social object in relation to each social situation or social role within which he behaves.[1]

The social role under consideration within the limits of this thesis is that of the individual as a group member. Research and authoritative opinion pertaining to the effects of group membership on individual behavior in specified situations will be examined.

As detailed in Chapter I of this thesis, a broad,

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[1]Wilbur B. Brookover, "Student Role and Academic Self-Concept" (East Lansing: prepared for the Encyclopedia of Education, 1970), p. 5.

encompassing concept of group has been adopted. No attempt to relate the research reviewed to specific categories of groups is contemplated. Support for this approach is found in an analysis of group types by Cartwright and Zander:

> Until better empirical evidence becomes available to establish a fundamental discontinuity along the dimen-- sion of size, it would be unwise to use size to define the field of group dynamics.
>
> The same line of reasoning holds when considering all the other criteria which have been proposed. Thus, it should not be assumed without good evidence that one set of laws applies to informal groups while another applies to formal ones, or that a single theoretical system cannot encompass face-to-face groups and organizations. Similarly, it should not be taken for granted that a special field of knowledge is required for groups having some particular objective.[2]

Comparisons of Individual and Group Performance in Situations of Competition and Cooperation

The decision to distribute rewards on the basis of total group performance as opposed to individual competition among group members for the rewards, may generate a social situation which Deutsch has experimentally applied and which may be termed common fate.[3] Of significance to this study is the level of performance displayed by groups functioning under induced cooperation as compared to the performance of individuals in competition for rewards.

Blau studied the effects of competition and

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[2]Dorwin Cartwright and Alvin Zander, Group Dynamics, Research and Theory (Elmsford, N. Y.: Row Peterson and Co., 1960), p.

[3]Morton Deutsch, "An Experimental Study of the Effects of Cooperation and Competition on Group Process," Human Relations, 2 (April, 1949), 199-232.

cooperation on group performance in a government office. His research was conducted with the interviewers in two small sections of a public employment agency.[4]

In his description of the structural conditions within the agency which affected competitiveness, Blau noted that the members of one of the sections (Section A) were more competitive than those of the other section (Section B). The interviewers competitiveness, his hoarding of job files, was an effective method of improving his placement record in Section A, but this was not true for Section B.[5]

Blau has noted the cooperative characteristics of the members of Section B:

> The members of Section B were more cooperative: they discouraged competitive practices by making them ineffective. When they learned about interesting vacancies they often told one another, but an interviewer who manifested competitive tendencies was excluded from the network of reciprocal information and lost the respect of his co-workers. Any advantage of hoarding jobs was, at least, neutralized by such lack of cooperation, as is indicated by the absence of a relation between competitiveness and productivity in this group. Since competitive practices made an interviewer unpopular and failed to raise his productivity, they were infrequent.[6]

The degree of social cohesion found in each of the groups was determined by Blau through an analysis of the intragroup patterns of behavior. He placed particular

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[4]Peter M. Blau, "Cooperation and Competition in a Bureaucracy," The American Journal of Sociology, 59 (May, 1954), 530-535.

[5]Ibid., p. 531.

[6]Ibid., pp. 531-532.

significance on the effect that social cohesion appeared to have on the productivity of the group. The anxious concern with productivity displayed by the interviewers in Section A was viewed by Blau as causing them to concentrate blindly upon it, at the expense of other considerations.[7]

The neglected aspect of relationships with others has been detailed by Blau:

> Competitiveness in this group weakened social cohesion, while cooperativeness in Section B strengthened it. This is further shown by the fact that usually none of the members of Section A spent their rest periods together, whereas all but one of those in Section B . . . did. Social cohesion enhanced operating efficiency by facilitating cooperation and reducing status anxiety.[8]

The degree of social cohesion within a group was also proposed by Blau to have an anxiety-reducing effect which, in turn, was viewed as influencing productivity. He contended that status anxiety is most pronounced in those individuals who do not feel integrated in their work-group and thus attempt to derive social recognition from excelling at their tasks and from gaining approval of their superiors. Friendly relations with co-workers were seen by Blau as making the standing of the individuals in the cohesive group independent of their productivity. The consequent reduction of anxiety in the anti-productivity-oriented group was viewed as responsible for actually raising its productivity.[9]

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[7] Ibid., p. 534.

[8] Ibid.

[9] Ibid.

A cooperative approach to task performance would, on the basis of Blau's study, appear to be advantageous in terms of furthering the total productivity of a group. While the competitive situation promoted increased productivity on the part of the most competitive individual in the group, the total production of the group was less than that of the cooperative group. Blau formulated an hypothesis in which he attempted to summarize and interpret these findings:

> The hypothesis that the cohesiveness of the group and the competitiveness of the individual in the less cohesive group both reduce status anxiety explains the paradox that the less competitive group as well as the most competitive individual in the competitive group each was particularly productive.[10]

The cooperative behavior displayed by the members of Section B, in Blau's study, was not directly influenced by an externally originated group reward policy. The cooperative group apparently developed its own intragroup common fate for purposes of anxiety reduction.

Deutsch has provided an indication that common fate and resultant group member cooperation may be induced by stipulating that rewards will be allocated on the basis of total group performance. He attempted to study the effects of cooperation and competition upon group achievement. The study was designed to make comparisons of cooperative and

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[10] Ibid., p. 535.

[11] Deutsch, loc. cit.

competitive groups as measured by their responses to puzzle problems and human relations problems.[11]

Deutsch created a common fate for members of his cooperative group by informing them that their rewards would have high correspondence and would be determined by the effectiveness of the group's performance. The members of the competitive group were to be rewarded on an individual basis, with rewards for the most effective individuals resulting in loss of reward for those less effective members.[12]

Deutsch found that observers rated the cooperative groups as significantly more oriented ("aware of where they are and where they are going") than the competitive groups for both kinds of tasks.[13] The cooperative groups were able to solve the puzzle problems more rapidly than were the competitive groups and were also able to produce more quantitatively on the human relations problems. The cooperative groups were also superior in discussion productivity, as rated by observers, and in written recommendations for the human relations problems, as rated by judges. The observers noted that the discussions of the cooperative groups not only produced more fruitful ideas for handling the problems, but also that their discussions revealed more insight and understanding of the nature of the problems.[14]

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[12] Ibid., p. 201.

[13] Ibid.

[14] Ibid., p. 220.

The ratings of average individual productivity showed no significant difference for the cooperative and competitive groups on the human relations problems. A difference, less than significant, favored the cooperative group in solving puzzles.[15] Deutsch offered a possible cause for this difference by noting that "the latter result is probably explained by the fact that the greater communications within cooperative groups meant that individuals were less likely to stay in blind alleys for long periods of time."[16]

The cooperative situation also had an effect upon the support provided for each other by the group members. A greater percentage of encouraging or rewarding remarks were made in cooperative groups during discussions. A significantly larger proportion of aggressive statements were made during the competitive group's discussions.[17]

The cooperative groups indicated that they felt obligated as members of a group to participate in a joint effort. The competitive groups felt less obligated by comparison.[18]

Grossack applied the Deutsch technique for the purpose of creating a common fate among the members of a

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[15] Ibid.

[16] Ibid., p. 222.

[17] Ibid.

[18] Ibid., p. 223.

portion of the groups presenting solutions to a human relations problem. Those groups in which common fate had been created showed significantly greater cooperative behavior.[19]

The relationship between cooperation and group cohesiveness has been noted by Grossack:

> Cooperation may be considered a determinant of group cohesiveness. Cooperative Ss showed significantly more cohesive behavior, attempts at influence, exertion and acceptance of pressures toward uniformity, and communication of relevance than did the competitive Ss.[20]

Research by Maller generally supports the findings of Deutsch and Grossack. Productivity was found to be greater when group members worked cooperatively on the group task than when they worked independently or in competition with each other.[21]

May and Dobb have proposed that individuals will cooperate rather than compete when cooperation is perceived as a means by which shared goals may be achieved.[22]

Miller and Hamblin attempted to ascertain a possible cause of inconsistencies in the findings of small group

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[19] Ibid., p. 226.

[20] Martin M.Grossack, "Some Effects of Cooperation and Competition Upon Small Group Behavior," Journal of Abnormal Social Psychology, 49 (1954), 341-348.

[21] Julius B. Maller, Competition and Cooperation; an Experimental Study in Motivation (New York: Teachers College, Columbia University, 1929), cited by Ralph M. Stogdill, Individual Behavior and Group Achievement (New York: Oxford University Press, 1959), p. 231.

[22] M. A. May and L. W. Dobb, Competition and Cooperation (New York: Social Science Research Council, Bulletin 25, 1937), cited by Stogdill, p. 248.

research dealing with competitive and cooperative situations. A study involving university students was designed to examine the influence which interdependence may have upon the productivity of cooperative and competitive groups.[23]

The results of this study indicated that in high-interdependence situations, as differential rewarding increased, the productive efficiency of the groups decreased sharply. In tasks requiring a low degree of interdependence, contrary to the results hypothesized by the researchers, the productive efficiency of the group did not increase with differential rewarding.[24]

Comparisons of Individual and Group Performance

The literature presented in the preceding section of this thesis has provided an indication that rewarding individuals in terms of the performance of the group tends to encourage a cooperative approach to group goal achievement.

Evidence is also available which indicates that when group and individual performances on similar tasks are compared, that superior outcomes tend to result from the group approach.

A study conducted by Faust compared the performance

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[23]L. Keith Miller and Robert L. Hamblin, "Interdependence, Differential Rewarding and Productivity," Current Studies in Social Psychology, ed. Ivan D. Steiner and Martin Fishbein (New York: Holt, Rinehart and Winston, Inc., 1965), pp. 435-445.

[24]Ibid., p. 445.

of groups and individuals on ability to solve spatial and verbal problems. The mean number of problems solved by groups was found to be significantly greater than the mean number solved by individuals for both types of problems.[25] The spatial problems were essentially one-step-insight problems. The verbal problems were of multiple-step construction.[26]

As a possible explanation for group superiority in arriving at solutions to the multiple-step problems, Faust observed that the group may have one member who can solve one step of a problem, another member who can solve a different step, so that the group may solve the problem even though no single member could have accomplished the solution working alone.[27]

Faust has generalized his findings in terms of their implications for various other situations:

> The present study has restricted its investigation to only one aspect of group effectiveness--performance in solving certain kinds of problems. However, working in groups may serve other functions. Participation in groups may be important because it motivates individuals in situations in which motivation otherwise would be inadequate. Group decision making may be desirable, not because the decision reached is better than that which would be made by individuals, but because the decision will be accepted by the members of the group once it is made.[28]

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[25] William Faust, "Group Versus Individual Problem Solving," Journal of Abnormal Social Psychology (July, 1959), 68-72.

[26] Ibid., p. 70.

[27] Ibid., p. 71.

[28] Ibid.

Research by Lorge compared the ability of groups and individuals to produce written responses to questions at four levels of remoteness from reality. The responses produced by the groups were found to be superior to those produced by individuals at every level examined.[29]

Lorge suggested possible causes for these results:

> The superiority of team solutions over individual solutions in part may be due to the fact that teams of five members ask more questions than do single individuals. Teams, thus, not only get more information, but also seem to evolve many more fruitful hypotheses regarding a solution.[30]

Supportive findings by Barnlund indicated that the group is able to surpass its most capable members on given tasks. In a study comparing the responses of individual students and student groups to test questions, he found the interacting groups able to perform significantly better than their superior members had performed on a previously applied form of the test.[31]

Barnlund cited several reasons he perceived as being possible causes for group superiority: (1) an individual's membership in an experimental group produced a higher level of interest in successful completion of the task; (2) an individual's membership in an experimental group had an

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[29]Irving Lorge and others, "Solutions by Teams and Individuals to a Field Problem at Different Levels of Reality," Journal of Educational Psychology, 46 (January, 1955), 17-24.

[30]Ibid., p. 24.

[31]D. C. Barnlund, "A Comparative Study of Individual, Majority, and Group Judgement," Journal of Abnormal Social Psychology, 58 (1959), 55-60.

inhibiting as well as facilitating effect since the knowledge that opinions were to be shared publicly made members more cautious and deliberate in their thinking; (3) groups displayed greater critical resources than did individuals working alone. Group members perceived different issues and a greater quantity of issues than did individuals functioning alone although the level of ability was similar; (4) the competition between the private prejudices of group members resulted in a more objective view of the problem.[32]

Additional research by Lorge and others found evidence that group discussions tend to produce novel ideas. None of the group members had mentioned these ideas during individual discussions held prior to the group sessions.[33]

Thorndike found evidence that groups tend to do well when the solution of the problem permits many alternative solutions rather than only a limited number.[34] A possible cause for this superiority was offered by Dashill. He observed that the greater the variety of judgements of others an individual is cognizant of, the greater the likelihood

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[32] Ibid.

[33] Irving Lorge and others, Evaluation of Instruction in Staff Action and Decision Making. Technical Report No. 16 (Maxwell Air Force Base, Alabama: Human Resources Research Institute, 1953), cited by John W. Thibaut and Harold H. Kelley, The Social Psychology of Groups (New York: John Wiley and Sons, Inc., 1966), p. 267.

[34] Robert L. Thorndike, "The Effect of Discussion Upon the Correctness of Group Decisions, When the Factor of Majority Influence is Allowed For," Journal of Social Psychology, 9 (1938b), 343-362.

that he will make a correct decision himself.[35] When the group decision involves a questioning process, Taylor and Faust found that groups require fewer inquiries to attain the answers to questions.[36]

The studies pertaining to group effects upon individual performance have been reviewed by Thibaut and Kelley. They concluded that working with others is generally more productive than working alone. In their analysis of the information which prompted this conclusion, the authors observed that many factors in the social setting of groups may affect the subsequent performance of the members:

> In brief, the social setting may be constrictive and inhibiting, or it may be provocative and supportive. As to what makes it one way or the other--what variations in group size, organization, routine, or leadership--the existing evidence furnishes only a number of suggestive leads.[37]

Thibaut and Kelley contended that if systematic, intelligent decisions regarding when to depend on the individual and when to rely on group efforts for productive thought are to be made, then the above cited conditions must be identified. If further investigation indicates that the

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[35] J. F. Dashill, "Experimental Studies of the Influence of Social Situations on the Behavior of Individual Human Adults," A Handbook of Social Psychology, ed. C. Murchison (Worcester, Mass.: Clark University Press, 1953), pp. 1097-1158.

[36] Donald W. Taylor and William L. Faust, "Twenty Questions: Efficiency in Problem Solving as a Function of Size of Group," Journal of Experimental Psychology, 44 (July, 1952), 360-368.

[37] Thibaut and Kelley, op. cit., pp. 271-272.

group problem-solving process tends to produce solutions in an ineffective manner, the authors predicted that it is very improbable that the entire responsibility for decision-making would then become the responsibility of individuals. From the perspective of Thibaut and Kelley, group problem-solving will probably be continued to a certain extent regardless of the effectiveness of the procedure.[38]

The necessity for group member participation in not only the development of goals, but in the determination of the means by which attempted goal realization will be attempted, was given high priority by Thibaut and Kelley. They observed that:

> . . . the coordinated joint action of many members that is necessary to reach certain goals requires widespread understanding of the nature of the chosen means. If general participation in developing and planning a means heightens understanding of it and commitment to it, the group problem-solving process may be more economical in the long run than one that begins with the most expert thought and advice.[39]

The literature pertaining to group and individual learning comparisons has been studied by Davis. His resultant analysis is consistent with the position assumed by those in support of group superiority. Davis noted that:

> If we were to summarize the individual-group learning experiments we have only sampled here, the most fitting generalization would be that although the difference between individuals and groups is frequently negligible, any significant discrepency almost uniformly favors groups. Groups are more likely than individuals to come

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[38] Ibid., p. 272.

[39] Ibid.

> up with a correct response; they make fewer errors; and frequently they arrive earlier at response or learning criterion.[40]

Group Cohesiveness, Group Norms, and Group Productivity

Previously cited research has provided an indication that the degree of cooperation between the members of a group is an important determinant of the cohesiveness of the group. The aspect of cohesiveness is, in turn, viewed by many group theorists as an integral factor in the development of group norms. Seashore conducted related research in a factory producing heavy machinery.[41]

The results of the study, which was designed to investigate the relationship between group productivity, group standards, and group cohesiveness have been summarized by Seashore in the form of the following generalizations:

> Our general conception is that group productivity standards develop in such a manner as to facilitate the achievement of the goals of the group members. In terms of the force field acting upon the individual group member, we assume a condition in which there are opposed forces toward higher and toward lower productivity and that the standard adopted will depend upon the balance of these forces. We further assume that the induction by the company of forces toward higher productivity will be more or less effective depending upon the confidence of the individual that rewards will accompany higher productivity and penalties will accompany lower productivity. Degree of group cohesivesness becomes relevant because it is a factor in the formation of consensus. The hypothesis is that the behavior specified by a group standard is determined in part by the shared perceptions within the group regarding the degre of support provided by the organization of which the group is a part.[42]

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[40] James H. Davis, Group Performance (Reading, Mass.: Addison Wesley Publishing Co., 1969), pp. 16-17.

[41] Stanley E. Seashore, Group Cohesiveness in the Industrial Work Group (Ann Arbor: University of Michigan, 1954).

[42] Ibid., p. 72.

Seashore's hypothesis thus has theoretical significance for the manner in which reward systems are administered. Conceivably, it may be possible to facilitate to a certain extent the development of high-level group standards through a system of reward administration which tends to produce group-member confidence in the organization.

An argument in indirect support of the concept of group-member participation in the formulation of group goals and the means by which they may be achieved has been offered by Festinger and Thibaut. They proposed that as the cohesiveness of the group increases and the issues considered become more relevant, the group tends to exert pressures upon deviant members. Deviating members show a greater change in the direction of the group norm.[43]

The degree of cohesiveness within a group is also viewed by Klein as a factor which influences deviant group members. Klein noted that:

> Since deviance from the norms of others may cause these others to withdraw their friendship and/or to interact with them less frequently, the more cohesive the group is, the greater the control that can be exercised in this way.[44]

Thibaut and Kelley have analyzed the relationship between group goals and individual goals. According to

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[43]Leon Festinger and John Thibaut, "Interpersonal Communication in Small Groups," Journal of Abnormal Social Psychology, 46 (January, 1951), 92-99.

[44]Joseph Klein, The Study of Groups (London: Kegan Paul Ltd., 1956), p. 134.

their conclusions, action is taken in both instances to attempt to put a task in a particular state. They have observed that group goals are:

> . . . more nearly like norms in their dependence on at least some degree of consensus among the members. Acceptance of group goals is likely to be high in organized groups and is increased as members' outcomes tend to correspond. A source of member resistance to group goal acceptance may be his concern about whether compensations will ultimately reward him for lengthy and arduous participation . . . as long as members are interdependent in attaining their goals, there must be wide acceptance of the chosen means as well as the goals themselves.[45]

Katz and Kahn have noted that in situations where cooperative group efforts are necessary, certain methods of reward distribution often result in the establishment of protective group norms:

> Since there is such a high degree of collective interdependence among rank and file workers, the attempts to use individual rewards are often perceived as inequitable. Informal norms develop to protect the group against efforts which are seen as divisive or exploitive. Differential rates for subsystems within the organization will be accepted much more than invidious distinctions within the same subgrouping.[46]

These authors further observed that through application of rewards in those situations where varying degrees of cooperation and interaction are necessary, it is possible to influence increased productivity in specified areas.

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[45]John W. Thibaut and Harold A. Kelley, The Social Psychology of Groups (New York: John Wiley and Sons, Inc., 1966), pp. 270-271.

[46]Daniel Katz and Robert L. Kahn, The Social Psychology of Organizations (New York: John Wiley and Sons, Inc., 1966), p. 354.

Katz and Kahn dramatized this point with the contention that "many organizations are not assembly-line operations, a university can increase the amount of research productivity by making publication the essential criterion for promotion."[47]

Based on a review of pertinent research by Likert, Mayo and Lombard, Brody, and Mann and Baumgartel, Katz and Kahn proposed that the internalization of organizational goals tends to result in low absence and turnover, high productivity and maximal spontaneity and innovativeness on the part of the employees in the service of these goals.[48]

The process of internalization of organizational goals is viewed by Katz and Kahn as one of the most effective of motive patterns and yet one of the most difficult to implement within the context of the organizational setting. The degree of internalization is perceived as being dependent upon the character of the organizational goals and their congruence with the needs and values of the individuals. The process of goal internalization is further determined to be dependent upon the degree of participation which is afforded

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[47] Ibid.

[48] R. Likert, New Patterns of Management (New York: McGraw Hill, 1961); E. Mayo and G. Lombard, "Teamwork and Labor Turnover in the Aircraft Industry of Southern California," Business Research Studies, No. 32 (Cambridge, Mass.: Harvard University, 1944); M. Brody, "The Relation Between Efficiency and Job Satisfaction" (unpublished Master's Thesis, New York University, 1945); F. C. Mann and H. J. Baumgartel, "Absences and Employee Attitudes in an Electric Power Company" (Ann Arbor: Institute for Social Research, 1952), cited by Katz and Kahn, p. 389.

the individuals in the determination of organizational decisions and the allocation of rewards which are realized by the organization.[49]

Research reviewed by Bass indicated that group goals which have relevance for the members tend to modify their subsequent behavior. Participation in the formulation of goals and policies is viewed as an important factor in the group's subsequent conformity to them.[50]

Reward Structures

Three basic considerations for reward structures which incorporate salary incentives have been identified by Katz and Kahn. These considerations are seen as possessing importance not in terms of specific stipulations, but importance in the manner in which they are perceived by the recipients. Those characteristics determined, include: (1) the rewards must be clearly perceived as large enough in amount to justify the additional effort required to obtain them; (2) they must be perceived as directly related to the required performance and follow directly upon its accomplishment; and (3) the rewards must be perceived as equitable to the majority of the system members.[51]

Rewards have been categorized from a group perspective

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[49] Ibid.

[50] Bernard M. Bass, Leadership, Psychology, and Organizational Behavior (New York: Harper, 1970).

[51] Katz and Kahn, op. cit., p. 353.

by Collins and Guetzkow. Two major reward classifications have been developed in terms of their relationship to the group. The first classification was termed task environmental rewards. These rewards are events external to the group. Task rewards are viewed as retaining their effectiveness for long periods of time after group action. The second classification, interpersonal rewards, are events in the behavior of group members, and therefore, internal to the group. The authors contended that group members have much more control over their own behavior than they do over task environmental feedback.[52]

Collins and Guetzkow proposed that interpersonal rewards can be used to support task activities and that task environmental rewards can mold and maintain certain patterns of interpersonal relationships. Both kinds of rewards are viewed as capable of supporting either or both classes of behavior.[53]

Reward types have also been categorized by Katz and Kahn. They elected to approach such classification from an organizational perspective. Two major types of organizational rewards were identified: (1) system rewards; and (2) individual rewards.[54]

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[52]Barry E. Collins and Harold Guetzkow, A Social Psychology of Group Processes for Decision Making (New York: John Wiley and Sons, Inc., 1964), p. 85.

[53]Ibid.

[54]Katz and Kahn, op. cit., pp. 355-356.

System rewards were described as rewards which are allocated on the basis of membership in the system. They differ from individual rewards, which are based on differential effort and performance, in that the criterion for their distribution is usually determined by seniority in the system. System rewards were perceived by Katz and Kahn as encouraging performance of sufficient quantity or quality to enable continued membership in the system.[55]

Individual rewards for performance were viewed as difficult to apply in large-scale organizations but "under the proper conditions of immediacy, constancy and adequacy can lead to increased productive effort."[56]

A study by Porter and Applewhite, based on the research conducted by Seashore, was carried out in a plastics company. The intended purpose of the study was to examine the relationship between reward for efficiency and increased production. The worker's productive output was hypothesized to be dependent upon the variables: (1) group cohesiveness; (2) group participation; (3) group norms; and (4) the manner in which the workers perceived the role of their authorized supervisor. These variables were then analyzed in terms of the effect that reward for efficiency had upon them.[57]

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[55] Ibid.

[56] Ibid., p. 356.

[57] Donald E. Porter and Phillip B. Applewhite, Studies in Organizational Behavior and Management (Scranton: International Textbook Co., 1964), pp. 208-209.

Reward for efficiency was found by Porter and Applewhite to be more positively associated with high group norms when the cohesiveness of the group was high. In instances where the employees had greater control over their work situation, the reward for efficiency tended to be more strongly associated with positive group norms. Positive group norms, in turn, affected the productive output of the group.[58]

It was also found that a positive correlation between reward for efficiency and group norms existed in groups where supervision was determined to be close. Close supervision was not associated with perceived pressure from foreman to increase production or reduce waste. Those groups which reported close supervision more often indicated that their team worked cooperatively.[59]

Extensive research was conducted by Davison and others in industrial settings in Great Britain for the purpose of investigating incentive plans.[60] While their investigations were not directed solely to the concept of group rewards, insight as to the potential these investigators see for the general class of incentives is pertinent to this thesis.

In summarizing their conclusions, Davison et al.

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[58] Ibid.

[59] Ibid.

[60] J. P. Davison and others, Productivity and Economic Incentives (London: George Allen and Univin Ltd., 1958).

noted:

> . . . our research found that though large increases in productivity--larger than commonly supposed--can be obtained by introducing payment by result based on work study, this introduction bustles with problems in industrial democracy, communication and group psychology. Engineers, business managers and practical economists can certainly hope to increase the national product by economic incentives but only if they take account of the social climate, particularly its liability to storms.[61]

These researchers also noted the extreme difference between inducing an individual to accept initial employment with a firm and inducing him to modify his pattern of action after he is a member. The modification process is viewed as including such factors as " . . . managerial skill and qualities of leadership, the public opinion of the working group, individual and group attitudes, trade union policies both national and local, and, of course, economic incentives."[62]

The Scanlon Plan

In the research and theoretical views pertaining to group behavior and group rewards previously cited in this chapter, several key factors have emerged as influential in the determination of the performance of a group. These key factors include: cooperation; social cohesiveness; common fate; participation; group norms or standards; and relevance of group goals.

A group incentive plan which has found generally

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[61] Ibid., p. 39.

[62] Ibid.

successful application in many industrial settings and which is conceptually organized so as to consider these identified variables was developed, in principle, by Joseph Scanlon during the late 1930's. Impetus for such a plan was provided by Scanlon's experiences during the Depression, when necessity dictated cooperative efforts on the part of citizens in attacking community problems.[63]

Scanlon felt that traditional company organizational patterns did not allow employees to realize their productive potential either on an individual or group basis. The roles assumed by employees and managers often resulted in divisive behavior on the part of both groups. There often appeared to be lacking a commonality of purpose in the goals of the company and those of the employees.[64]

Lesieur and Puckett have described Scanlon's views regarding employee participation and reward:

> He felt that employee interest and contribution could best be stimulated by providing the employee with a maximum amount of information and data concerning company problems and successes, and by soliciting his contribution as to how he felt the problem might best be solved and the job best done.
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> Thus the Scanlon Plan is a common sharing between management and employees of problems, goals, and ideas. Scanlon felt that individual incentives worked against employee participation of this nature. He believed that individual incentives put the direct worker in business for himself, pitted him against the broader interests of

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[63] Fred G. Lesieur and Elbridge S. Puckett, "The Scanlon Plan has Proved Itself," Harvard Business Review (September-October, 1969), 109-118.

[64] Ibid., p. 110.

> the company, and produced inequities in the wage structure that in turn led to poor employee morale. His concept of a system of rewards that would stimulate employee interest and acceptance of technological change involved an appropriate wage structure reflecting (1) individual skills and (2) additional rewards, based on the success of the enterprise, to be shared by all employees and management.[65]

While operational details may vary somewhat, the basic features of the Scanlon Plan when applied in industry are consistently similar. Lesieur and Puckett have investigated the application of the Scanlon Plan in various contemporary industrial settings and attempted to describe their findings in terms of a generalized description. It was found that companies usually implement Scanlon's philosophy of participation by means of a committee system comprised of a departmental production committee and an overall screening or steering committee.[66]

The departmental production committees consist of two or more employees, depending on the size of the department, and one or two management members. The management members are appointed by the company, with the head of the department, or area, usually chairing the committee. The employee members are usually elected by the employees in the department or, in some instances, appointed by the union leadership. Regularly scheduled meetings are held, at which time the members insure that each suggestion submitted by the employees has been recorded along with any action which

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[65] Ibid.

[66] Ibid.

has been taken. The committee must also process all suggestions, attend to previous suggestions on which action has not been completed, and consider any other business considered important to the department's performance. Although the committees approve the majority of the suggestions submitted, they do not have the right to accept or reject the ideas presented. The management of the company usually reserves this prerogative.[67]

Following the meetings of the production committee and as soon as the data on the company's performance for the previous month are available, the screening committee meets. The chairman of this committee is normally a top executive who serves along with other top executives from the various departments of the company. The president, steward or other union officer of the local union or unions involved usually serves and employee members represent various areas. As at the production committee level, the employee members are usually elected by their constituents, but in some cases may be appointed by the union.[68]

The screening committee reviews the performance of the previous month and attempts to analyze the possible causes for both favorable and unfavorable results. An important function of each member is to obtain a full understanding of the variables that determine the bonus result, so

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[67] Ibid., pp. 110-111.

[68] Ibid., p. 111.

that this information may be accurately imparted to other employees. It is viewed as extremely important that the employees understand the results and maintain confidence in the method of measurement which is used.[69]

An additional function of the screening committee is to examine any company problems or matters of interest which the management feels should be communicated to all employees. Any suggestions which have not been resolved at the production committee level are discussed and appropriate actions determined. In all cases there is no voting by the committee on suggestions but there is a thorough discussion of all points of view when disagreement occurs. Following consideration, management makes the final decisions.[70]

From the perspective of the employees, the material rewards from a Scanlon-type operation are in the form of increased wages. In recent years, the most commonly used type of measurement is what has been termed a sales value of production ratio. The ratio of total payroll to sales value of production in a prior base period is compared with the ratio in the current period. Any improvement in the ratio provides a bonus pool. Usually, 25 percent of the pool is the company's share and the remaining 75 percent is distributed among the employees as that month's performance bonus. Participation in the bonus reward includes everyone

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[69] Ibid., pp. 111-112.

[70] Ibid., p. 112.

in the company up to and including the president, or, in the instance of larger, multi-plant organizations, everyone employed in the facility in which the plan is in effect.[71]

By way of supportive evidence for the Scanlon philosophy, Lesieur and Puckett have provided a detailed report of the results credited to the plan in three selected companies. An initial advantage was found to be increased acceptance and accomplishment of change. The authors observed that "while there is a natural human reluctance to change, employees . . . are now pushing management to bring in new equipment and to get it operating properly for the benefit of all."[72]

Other generalized findings characteristic of each of the three companies include such factors as: "an employee finds it more natural to take a broader view of the company's problems" . . . "getting the cooperation and support of the indirect servicing groups--i.e., tool room, maintenance, and materials handling--is much easier when these groups receive incentive earnings" . . . "Through their committee activity, managers are able to discuss company objectives with employees and attain a response that is not possible under an individual incentive system" . . . "It is very important that the participants look on the success of the enterprise as being the basis for their own individual

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[71] Ibid.

[72] Ibid., p. 116.

success. When this attitude is present, the entire organization responds to problems . . . in a way calculated to get them solved as quickly as possible."[73]

The financial accomplishments of the three companies tend to support the effectiveness they have attributed to the Scanlon Plan. In each instance, performance bonuses have been paid to employees in nearly all of the bonus periods. A valid indicator, from an economic perspective, is the stability of the ratio of sales value of production and payroll. In each of the companies examined, the ratio of total payroll to sales value of production is nearly the same as it was the first year the plan was instituted. The companies under consideration have functioned under the Scanlon Plan for at least ten years.[74]

In concluding their analysis of the Scanlon Plan in practical operation, Lesieur and Puckett noted the necessity for sound administrative practices:

> What may distinguish the three companies more is that they all have good management. If you talk to the president or other managers in the companies, you find one common characteristic: they all know there is no substitute for good management. It is also important to note that in each of the companies the union is ably directed. In other words, the Scanlon Plan is not used as a crutch for good leadership.[75]

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[73] Ibid.

[74] Ibid., pp. 114-115.

[75] Ibid., p. 118.

Summary

The social role of group membership from a social psychological perspective has formed the frame of reference for the group literature presented in this chapter.

It was indicated that in instances where groups comprised of individuals in competitive situations were compared to groups which were structured to promote cooperative behavior among members, that cooperative efforts resulted in higher productivity and achievement.

Evidence was also presented which shows that when group and individual performances on similar tasks are compared, the group tends to perform in a superior manner. The conclusion expressed by various sources indicates that working with others is generally more productive than working alone.

Several interrelated factors were presented as influential in determining the level of effectiveness at which a group may function. The cooperative behavior of group members was found to result in an increase in the group's degree of social cohesion. Cohesiveness in a group tended to serve to reduce status anxiety experienced by group members. Reduced status anxiety, in turn, resulted in increased group productivity. Cohesiveness was also found to be a determinant of the level of the group norms developed within the group. Higher group norms affect the productivity of the group in that they determine the standards of group performance.

Participation in the determination of group goals and the means for accomplishing them was proposed to be an important determinant of the degree to which group members will attempt to realize these goals. Participation was suggested as affecting the relevance of goals to members. Relevant goals were viewed as influential in affecting the behavior of group members in a positive manner.

Practical application of a cooperative approach to group goal achievement, group rewards for effectiveness, and group member participation in determination of the means for goal realization is characterized by the Scanlon Plan. This plan, which has a record of success in several industrial applications, was described in some detail. Rationale for the plan, in addition to evidence in the form of case studies which indicate desirable results from its application, were also noted.

CHAPTER V

ELEMENTARY SCHOOL UNIT INCENTIVE MODEL

Overview of Chapter V

The concluding chapter of this thesis consists of three related segments:

1. The initial presentation is that of a descriptive rationale for the school incentive model. Justification for the characteristics of the model is found in the research and authoritative opinions which have been cited in the preceding chapters of this thesis. Any proposals which are not supported by previously included evidence are substantiated by data presented in the text of this chapter. Those facets of the model which are inputs of the writer are so indicated.

2. The second segment of this chapter outlines a model school unit incentive plan as applied in a public school setting. The situation is hypothetical. The characteristics of the designated elementary school are intended to depict the manner in which the writer conceptualizes the implementation of the proposals in a field setting.

3. Chapter V is concluded with the presentation of a summary, and observations of the writer pertaining to aspects of the study.

Financial Incentives

The cultural and psychological significance accorded to money and its possession and allocation in our society has been discussed in Chapter I. Society determines those factors which are deemed meaningful and important and thus worthy of varying amounts of financial allocation. The discussion of this point is not intended to encourage debate regarding various value systems and priorities, but more precisely, to observe that in our society, money is meaningful.

If this perspective is projected to the field of education, we may conclude that those factors for which teachers are rewarded above the system reward level are the aspects of teachers or teacher behaviors upon which the public places the greatest significance. The vast majority of teachers in this country have been shown to function under a single-salary type schedule. As noted, this structure provides for additional compensation for teachers as determined by the number of years of teaching experience and level of formal preparation, usually the number of university credit hours which they possess. Research has indicated little correlation between amount of teacher experience, formal preparation level, and teacher effectiveness. We thus have a situation in public education wherein teachers are rewarded on the basis of factors which presently show a negligible relationship with the degree of effectiveness at which they perform. Sufficient significance to warrant financial rewards

has not been accorded teacher effectiveness under the presently applied reward structure.

The model school unit incentive plan to be presented in this thesis is structured around one type of incentive--financial reward. The ultimate purpose of the proposed plan is to provide a device whereby collective teacher effectiveness is accorded significance, and increased teacher effectiveness is encouraged and financially rewarded.

The means by which effectiveness is accomplished is not within the limits of this study. It is, however, anticipated that the incentive plan herein proposed may provide impetus for investigation into means by which schools may become increasingly effective.

A final purpose of the model school unit incentive plan is to provide support, encouragement, recognition, and financial reward to those schools presently functioning in a comparatively more effective manner.

Reward Structure

The proposed teacher incentive model is intended as an augmenting factor to the regular single salary schedule. It is necessary that a plan of this type be easily comprehended, implemented, and administered. Since this reward structure will result in a school district operating with two independent salary structures, the fewer demands the plan requires in terms of mechanics, the greater the probability for acceptance and subsequent success.

The literature pertaining to attempted teacher merit salary plans indicates that these programs have been structured to provide rewards for those individual teachers judged to be deserving. This aspect of the attempted programs has served to produce one of the major criticisms of teacher merit plans--that of competition among teachers for the merit rewards.

Evidence has been presented which tends to support the supposition that the divisive behavior often produced by competition among individuals for rewards may be ameliorated by the institution of a system of group rewards. It has been found that group rewards tend to promote cooperative behavior among group members. Cooperation has been shown to increase a group's cohesion and group cohesion has, in turn, been found to relate positively with the level of group productivity.

Previously attempted incentive plans in education have neglected to incorporate provisions for group rewards into the reward system. A major goal of the model developed in this thesis is to promote the positive behaviors which research has indicated may result from the application of group rewards.

The maintenance of a positive, cooperative relationship between building administrator and teaching staff has, in recent years, been subjected to severe, externally originated strains. A partial reduction of this conflict may be accomplished through introduction of a common goal.

Pertinent research on group dynamics, when projected to the school situation, suggests that advantages may be realized by the creation of a common fate for all staff and administrative personnel of a given school. Such a common-fate situation may be induced by stipulating that both faculty and administration will be evaluted and rewarded on the basis of how effectively they achieve a common goal. In the instance of this model incentive plan, the common goal is the degree of success realized by stipulated pupils on pre-determined educational criteria.

The perspective from which teacher effectiveness is viewed in this thesis is in terms of the total school. The variations in effectiveness among individual teachers, administrators or other staff members will not be considered germane to this study. The model incentive structure shall provide that rewards be equally allocated to the total school staff as determined by the success produced by their combined efforts. It thus becomes mutually advantageous for the effective segments of the school to assist the ineffective; for the ineffective to strive for improvement; and for the total staff to search for means and methods whereby the effectiveness of the school may be increased.

The promotion of group responsibility and group efforts among the members of a school staff may be criticized for reducing the individuality of staff members. The concern may arise that an individual teacher's special talents, creativity, and pride of personal accomplishment could be stifled

through creation of a common fate. The model school unit incentive plan herein proposed specifies no stipulations as to the degree and type of teacher interaction, or as to whether tasks are to be performed on an individual or group basis. It is felt by the writer that this decision is more appropriately the domain of those individuals who are involved in the tasks. It should be noted, however, that it is possible to serve as a group member and work for the achievement of group goals while functioning much of the time on an individual basis.

It is intended that group responsibility will encourage a coordinated effort on the part of staff members to insure total-school effectiveness, as contrasted with more limited grade-level or classroom concerns.

Incentive Reward Amounts

The amounts of incentive rewards appear to be relative in nature and dependent upon the economic status of a particular geographic location or a specific school district. The literature examined provides the caution that it is important that the amount of the incentive be of sufficient quantity to be perceived by the potential recipients as worthy of sustained and demanding efforts. It remains virtually impossible to arbitrarily determine the size of an incentive which will be acceptable to both allocator and recipient in a variety of situations.

In a school district where the average annual teacher

salary is $10,000, an annual incentive reward of $500 may be viewed as insufficient to justify increased teacher effort. Although in a district where the average annual teacher salary is $6,000, such a reward may be considered by teachers as extremely attractive.

The problem of the appropriate size of the incentive reward is more legitimately resolved by the involved parties at the time the mechanics of the plan are established. This topic requires feedback and interaction between those responsible for allocating finances and those who anticipate receiving rewards.

The process of organizational goal internalization by individuals has been suggested to be partially dependent upon the degree of participation which is afforded the individuals in the determination of organizational decisions, and in the determination of the basis for allocation of rewards. This position tends to support the above described procedure.

For purposes of representation in this study, the amount of the incentive reward will arbitrarily be established at 4 percent of the average annual teacher salary in a given school district, for each variable which is measured.

Distribution of Incentive Rewards

The literature reviewed by the writer has failed to produce any indication that an experienced teacher is more effective than a teacher with less experience or that a

principal is more or less influential than a teacher in determining the degree of a school's effectiveness in terms of pupil outcomes. This reasoning may also be applied to special area personnel such as counselors, teachers of art, music, or physical education, and teacher aides.

Since no justifiable basis for reward differentiation has emerged, for purposes of this model it is proposed that all professional certified personnel who function within a given elementary building receive equal incentive rewards.

Exceptions to this stipulation are professional staff members who are also responsible for other buildings or other duties. Thus, a member of a faculty serving 50 percent of his teaching time in a building where qualification for the incentive reward has been realized is eligible to receive 50 percent of the standard incentive amount. A direct correspondence between percent of time assigned to a given building and percent of incentive reward for which eligible, is proposed.

Non-professional, full-time staff members, such as teacher aides, shall have the amount of the incentive reward for which eligible based on 4 percent of the specified, average annual job-classification salary in the given school district, for each variable which is measured. The direct correspondence between time assigned to a given building and percent of incentive reward, as outlined for professional staff, shall apply to non-professional staff.

It is proposed that all supportive personnel of the school, as designated in the model in part two of this chapter, be eligible for incentive rewards. Support for this proposal has been provided by the literature dealing with incentive rewards in selected industrial settings. It was found that those employees whose duties consisted of the performance of auxiliary services, displayed a greater degree of cooperation and increased concern over the realization of organizational and group goals when they shared in incentive rewards.

Evaluation of School Effectiveness

The evaluation of a school's effectiveness presents a problem for which there is no apparent generally acceptable solution. The lack of a common definition of teaching and the subsequent absence of a criteria of teaching effectiveness combine to make the evaluation process one of inconsistancy and confusion.

A large amount of educational evaluation has been directed toward the accomplishment of subjective judgements of teacher characteristics and behaviors. This method of evaluation has been undertaken for a variety of purposes, i.e., tenure decisions, prediction of effectiveness, promotion, merit rewards, improvement of performance, and personnel records.

The literature on teacher merit rating revealed a considerable amount of dissatisfaction over the means for

determining teacher merit for salary purposes. These evaluative procedures have been generally described as subjective, invalid, and unreliable. The preponderance of these evaluations have been characterized by evaluator judgements of teacher behaviors and characteristics. Evaluations of this type have usually functioned under the basic assumption that certain teacher qualities are indicative of a superior teacher, while the absence or lesser presence of such characteristics signifies a teacher of reduced capabilities.

Research has not as yet identified, with any degree of certainty, those teacher behaviors and characteristics which tend to facilitate effective teaching in terms of results.

For purposes of the incentive model generated in this study, the most appropriate procedure for the evaluation of teacher effectiveness would appear to be in terms of the measurement of results produced by the school. Selection of this method is not intended to place in low priority the continued investigation into the kinds of teacher behaviors and characteristics which produce desired educational outcomes. The focus of this study, however, is not upon teacher characteristics or teacher behaviors. The model teacher incentive plan herein developed stipulates that the total school be viewed as the educating agent, and that evaluation be conducted in terms of the degree to which the school realizes its goals in selected areas.

Several authorities on teacher evaluation have indicated that the measurement of pupil gains, or levels of pupil achievement, appear to be potentially meaningful courses of action. A major criticism of these approaches is the difficulty encountered in attempting to isolate the contributions made by individual teachers. This criticism is applicable to situations where the purpose of evaluation is to determine the effectiveness of an individual teacher.

Since this model has stipulated that the educating agent be viewed in the context of the total school, the effectiveness of a given teacher is not to be determined on an individual basis. The degree of effectiveness of the individual teachers within the school becomes relevant to this study when viewed in the context of their combined effectiveness. This combined effectiveness shall be equated with the measured abilities of the pupils in the third and sixth-grades.

Achievement Testing

Testing literature has indicated that, in general, tests have not evolved to a desirable level of validity and reliability. The areas most accurately measured by means of standardized educational tests appear to be certain of the basic skills, i.e., reading and arithmetic. Although tests of student achievement in selected basic skill areas are an important aspect of the model developed in this thesis, it is not within the limits of this study to examine the

detailed facets of the testing controversy. The writer assumes that the continued development and refinement of tests and testing procedures will allow for increased validity and reliability in the future.

The comparative level of achievement displayed by students in a given elementary school at the third and sixth-grade levels, in the basic skill areas of reading and arithmetic, as measured by standardized tests, shall constitute a determinant of the effectiveness of the school for purposes of this model.

It is assumed that the standardized tests which are selected will be those that most accurately reflect the goals of a given school's instructional program in the designated areas.

The Standard School

The socio-economic status of the parents has been identified as a variable which has displayed a reliable relationship with the level of student achievement in school. On the basis of evidence found in his nation-wide study of educational opportunity in American schools, Coleman observed that:

> . . . one implication stands out above all: that schools bring little influence to bear on a child's achievement that is independent of his background and general social context . . . equality of educational opportunity through the schools must imply a strong effect of schools that is independent of the child's

> immediate sccial environment, and that strong independent effect is not present in American schools.[1]

The method for determining the relative effectiveness of a given school for reward allocation shall, in the areas of achievement, be determined by comparison of the given school with a local district school designated as the standard school.

Since socio-economic status of parents has been shown to possess a reliable correlation with level of pupil achievement in school, it is proposed that the elementary schools in a given school district be ranked, for purposes of comparisons, in terms of socio-economic composition. The elementary school characterized by the largest proportion of high socio-economic pupil-enrollment within the district shall be designated as the district's standard school.

If distinctions between two or more schools are found difficult to accomplish, then those schools determined as equal in terms of socio-economic composition shall each be designated as a standard school.

Both the number of standard schools within a district and the means by which they are identified may vary greatly. The suggested criteria for determination of socio-economic rankings in this model are based on Brookover and Erickson's conclusions, and include: occupation, size of income, the

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[1]James Coleman, et al., Equality of Educational Opportunity, Survey by United States Office of Education (Washington: Government Printing Office, 1966), p. 325.

manner in which income is received, level of education, and place of residence.[2]

Equalization Factors

When stipulating that financial incentive rewards be allocated to a faculty on the basis of measured pupil-performance, it is necessary to insure that the staff of each school is afforded equal opportunity for qualification. The model herein developed shall require that equalization factors be computed for each elementary school within a given school district.

The initial step in determining an equalization factor for a given school requires the collection of the reading-achievement test scores for third and sixth-grade pupils for the preceding three-year period. These scores are then pooled and a school reading-achievement mean computed. The same process shall be applied to the area of mathematics and a school mathematics-achievement mean shall be determined.

The achievement means for a given school shall be deducted from the corresponding achievement means for the standard school. The differences between the achievement means for a given school and the corresponding achievement means for the standard school shall determine the equalization factors. Each elementary school shall thus determine

[2]Wilbur B. Brookover and Edsel L. Erickson, Society Schools and Learning (Boston: Allyn and Bacon, Inc., 1969), pp. 52-53.

an equalization factor in the areas of mathematics-achievement and reading-achievement.

The general formula for computation of a given school's equalization factors is $E = A - A'$, where:

E = equalization factor

A = three-year mean-achievement score for standard school

A' = three-year mean-achievement score for a given school

The equalization factors for a given school are not stable over time. Since they are based on measured performances over the immediately preceding three-year period, they are subject to yearly fluctuations, dependent upon levels of comparative pupil-achievement.

Standardized testing instruments to be employed for measurement purposes are the mathematics and reading sections of test batteries such as the Sequential Tests of Educational Progress. To facilitate comparisons, it shall be assumed that the elementary schools herein discusses have administered the selected instruments for at least a three-year period.

Student Perceptions of Teacher and Principal Expectations

The second criterion of a school's effectiveness, as proposed in this model, is that of the manner in which students perceive the academic expectations held for them by teachers and administrators.

Rosenthal and Jacobson,[3] and Schrank[4] have provided evidence that teacher expectations regarding school academic ability can result in the subsequent fluctuation of the actual level of pupil-achievement toward the level of teacher expectation.

Based on this information, the writer has assumed that the student perceptions of teacher and principal expectations may have a direct and influential relationship with the school's level of effectiveness in terms of pupil-achievement.

It has been previously indicated that processes or means for the accomplishment of school effectiveness are not within the limits of this study. The measurement of student perceptions, in the context under consideration, may be viewed as evaluation of a procedure for effectiveness, or it may be seen as a method of determining the outcomes of processes. The writer has assumed that student perceptions of teacher and principal expectations may be measured for evaluative purposes, on the supposition that such perceptions are outcomes.

The instruments proposed for measurement of student perceptions in grades three through six are tests such

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[3]Robert Rosenthal and Lenore Jacobson, Pygmalion in the Classroom (New York: Holt, Rinehart and Winston, 1968).

[4]Wilburn F. Schrank, "The Labeling Effect of Ability Grouping," The Journal of Educational Research, 62 (October, 1968), 51-52.

as the teacher and principal sections of the Student Questionnaire, designed for the School Social Environment Study.[5] It is proposed that a non-verbal adaptation of this test, designed to measure similar perceptions of all elementary pupils in grades kindergarten through two, be developed by a committee with district-wide representation.

Since student perceptions of teacher and principal expectations are viewed by the writer as being influenced to a greater degree by teacher and principal behavior than by various factors outside of the school setting, no basis for equalization among schools appears justified.

On the student perceptions variable it is proposed that a total school-mean score, expressed in percentage notation, be computed for each elementary school within a given district.

Measurement Procedures

Pupil responses to all testing measures shall be scored by an agent outside of the local school district. Results obtained by this agent are to be provided to the appropriate schools and to the district central office.

It is expected that the scoring agent shall report the measurement results in a form most appropriate for application to the incentive reward plan. Achievement test

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[5]The School Social Environment Study is being carried out under the joint sponsorship of the Michigan Department of Education and Michigan State University. This project is supervised by Dr. Wilbur B. Brookover.

results shall thus be reported in terms of a school reading-mean and a school mathematics-mean for each school. Measures of student perceptions shall be reported in the form of a given school's mean percentage score.

The determination of the annual total-achievement scores for the elementary schools shall be made at the local district level. The general formula for total average-achievement computation is TA = E + B, where:

> TA is the total average achievement score for an elementary school in a designated academic area for the year under consideration.
>
> E is the equalization factor for a given school in the corresponding academic area for the year under consideration.
>
> B is the average achievement score in the corresponding academic area for a given school for the year under consideration.

Each elementary school in the district shall thus obtain total average-achievement scores in the academic areas of reading and mathematics, expressed in terms of grade-levels. Since the tests of student perceptions require no equalization factors, they shall be reported from the scoring agent in terms of a school-average percentage score for each school.

Reward Allocation

Incentive rewards shall be allocated on the basis of

a given school's comparative performance in each of the three areas identified for evaluation. This stipulation insures that the eligible staff members of a school will be rewarded for comparatively superior outcomes when they occur in the evaluated areas.

All elementary schools within the school district shall be ranked on average mathematics achievement score, on average reading achievement score, and on average student perceptions score. Those schools whose scores place above the 75th percentile on a specified ranking shall qualify for the incentive reward amount designated to that particular area. The total amount of the incentive reward allocated to a given school staff is thus dependent upon the number of evaluated areas in which their school ranks above the 75th percentile.

Student and Teacher Turnover

The length of time spent in a given school by a student in order for the school to have an effect on his achievement is viewed by the writer as a factor of relative insignificance. Research by Rosenthal and Jacobson[6] and Schrank,[7] in addition to tentative indications provided by initial attempts at performance contracting,[8] provide

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[6]Rosenthal and Jacobson, loc. cit.

[7]Schrank, loc. cit.

[8]Stanley Elam, "The Age of Accountability Dawns in Texarkana," Phi Delta Kappan (June, 1970), 509-514.

support for the position that substantial student gains may be realized in relatively short periods of time.

Realistic limitations regarding the minimum allowable time a pupil must attend a given school, when proposing that the school has an effect on his achievement, are necessary however. This model will stipulate that a student must have been in attendance at a given school for a minimum of one school-year in order to be included as a factor in the determination of the school's effectiveness.

The individual teacher is not the focus of evaluation in this model. Since the school is viewed as the educating agent, the length of time a given member of the staff may serve in the building under consideration shall be of no consequence in terms of evaluation. Of greater significance to the total effectiveness of the school, perhaps, is the quality of the contribution made by a teacher.

The procedure for reward allotment provides an exception to the above stipulation. In the instance when a staff member shall serve for a portion of the school-year, he shall receive a share of the incentive reward in direct proportion to the length of service provided that school-year. For example, a teacher entering at mid-year shall receive fifty percent of the reward. The remaining fifty percent shall be alloted to the teacher who was replaced. In instances of dismissal for inadequacy, the released teacher shall not be eligible for any portion of the incentive reward.

Procedural Details

Procedures for the development of a school unit incentive plan are presented in the form of a series of sequential steps. It is assumed that in a specific public school setting, the incentive model developed by the writer would be subject to adjustment and adaptation so as to concur with local school district philosophy and priorities. This assumption is viewed as holding true for the procedural steps cited in the following section.

Step One: Decision by the board of education to investigate the school unit incentive reward model. The purpose of the investigation is to explore the feasability of adapting the model described in this thesis to the local elementary school situation.

Step Two: Organization by the superintendent of schools of an Incentive Reward Committee. The initial task of this committee is to conduct a feasability study pertaining to incentive rewards. This committee is formed with the understanding that if an incentive reward plan is adopted by the district, the committee shall become a standing body.

The following groups shall be represented on the incentive committee: elementary and secondary teachers; elementary and secondary principals; school board; parents; teacher and administrative professional organizations; central office administration; and teacher aides.

Step Three: Adoption by the board of education of the incentive reward committee's recommendation that an incentive reward plan be developed.

The responsibilities of the incentive committee shall include the development of a school incentive plan appropriate for the given district. The plan developed by the committee shall reflect local, state, and national goals for education; determine the factors to be evaluated; procedures for evaluation; instruments for measurement; criteria for allocation of incentive rewards; amounts of rewards; those parties eligible for rewards; standard school for the district; procedures for implementing and managing the plan; regulations pertaining to length of term for committee members and the process for selection of new members.

Following the necessary number of organizational sessions, this committee shall convene at least two times each year to consider requests, recommendations, and problems pertaining to the incentive plan.

Step Four: Notification from the committee to all school personnel in the district of the adoption of the plan, its design, requirements, and rationale.

Step Five: Written notification by an elementary school staff of their intention to attempt to qualify for incentive rewards during the next school-year. Such notification should be directed to the superintendent of schools by no later than May 1.

Step Six: Written approval from the superintendent

of schools to the staff of a requesting elementary school informing them of approval for their involvement.

Step Seven: Pupil-testing conducted during the second week in May. Tests are to be administered by regular staff members of the given elementary school and directed to the scoring agent no later than the end of the second week in May.

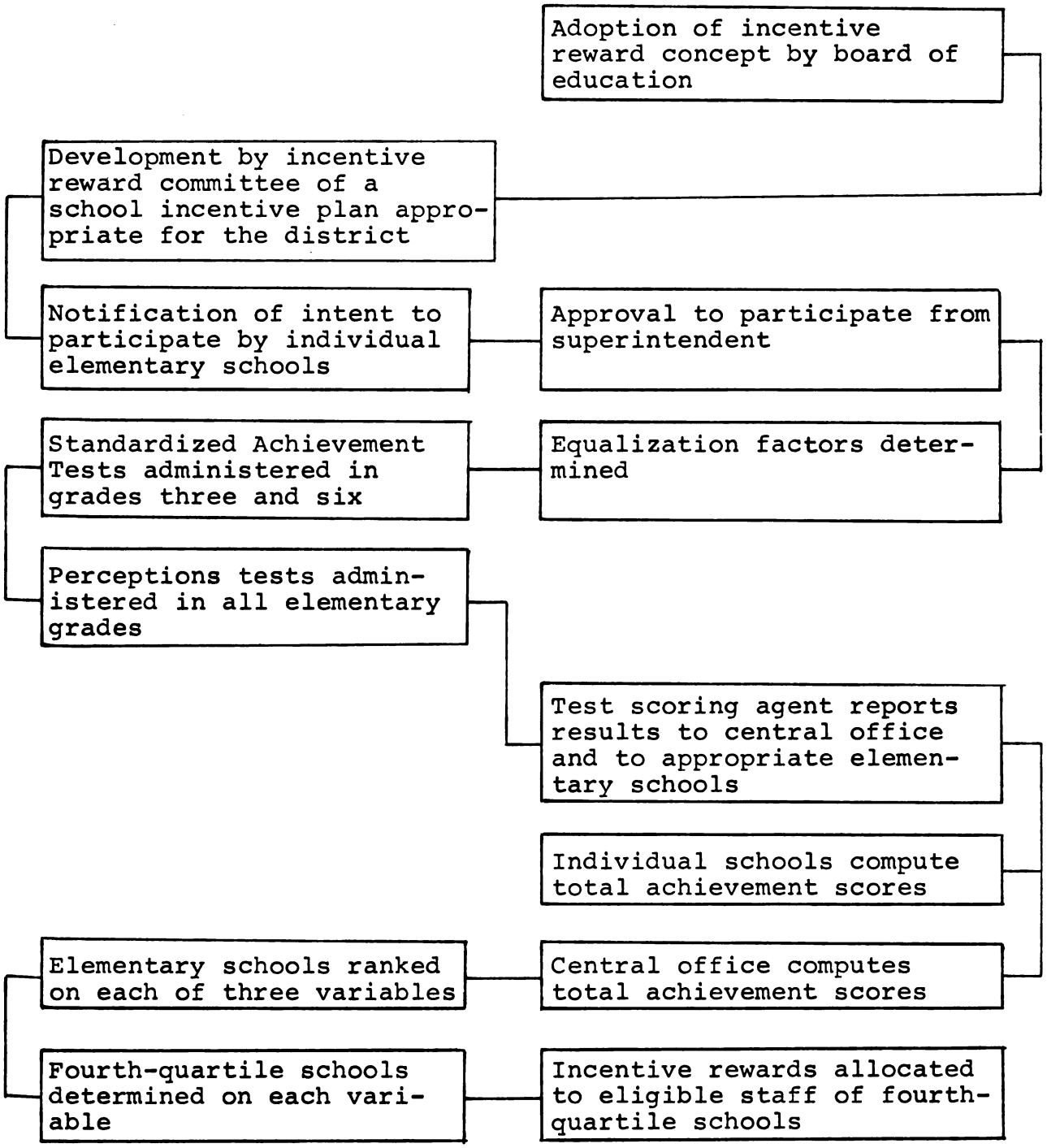
Copies of the scored test results are to be directed by mail from the scoring agent to the appropriate elementary building, and to the office of the superintendent by no later than June 10.

To provide for more broadly based comparisons and to encourage participation, all elementary schools in the given district are to administer measurement instruments appropriate to the incentive plan whether or not they have elected to attempt to qualify.

Step Eight: Total achievement-scores for each elementary school shall be computed at both central office and the respective elementary buildings. Achievement scores and perception scores shall be ranked on a district-wide basis and reported from the central office.

Step Nine: Those eligible staff members of schools successfully meeting the requirements for incentive rewards shall receive their rewards by the conclusion of the final week in June.

Procedural Flow--Chart



Financial Data

Thomas Jefferson Elementary School

Pupil Enrollment K-6 500

Sixth grade enrollment 74

Third grade enrollment 76

Professional staff:

1 Principal--full-time

22 Teachers--full-time

1 Guidance Counselor--full-time

1 Librarian--full-time

1 Music Teacher--3/4 time

1 Art Teacher--3/4 time

1 Physical Education Teacher--3/4 time

1 School Social Worker--1/5 time

1 Speech Correctionist--1/5 time

Non-professional staff:

12 Teacher-Aides--full-time

Average annual teacher salary $12,000

Average annual teacher-aide salary $ 4,000

District incentive rates:

Professional staff member--$480.00 per fourth quartile ranking

Non-professional staff member--$160.00 per fourth quartile ranking

Measurement data:

Equalization factors	mathematics	1.0
	reading	1.2
Achievement scores for current year	mathematics	4.6
	reading	5.0
Total achievement scores	mathematics	5.6
	reading	6.2

Perception score 64%

Cost Data

For representative purposes, the following itemized cost tabulation is based on the assumption that the above cited test scores have enabled Jefferson Elementary School to place in the fourth quartile in reading and mathematics achievement.

Staff Member	Cost
1 Principal	$ 960.00
22 Teachers	21,120.00
1 Counselor	960.00
1 Librarian	960.00
1 Music Teacher	720.00
1 Art Teacher	720.00
1 Physical Education Teacher	720.00
1 School Social Worker	192.00
1 Speech Correctionist	192.00
12 Teacher-Aides	3,840.00
Total Personnel Cost	$30,384.00
Per Pupil Cost	$60.77

Summary

In developing the incentive model described in this thesis, the writer has attempted to draw upon evidence resulting from social-psychological group research. This knowledge has been related to the formulation of a financial incentive reward structure appropriate for implementation in public elementary schools.

The proposed incentive model is partially dependent upon acceptance of the assumption that in our society financial rewards possess significant influence not only in the alleviation of materialistic wants, but also in the satisfaction of certain psychological needs.

The teacher-merit plans described and analyzed in the literature reviewed for this study have been characterized by a general lack of success. All of the plans examined by the writer were based on the premise that merit rewards should be alloted to teachers on an individual basis. Many individuals have expressed acceptance of the principle of reward for comparatively superior individual teacher performance, but contend that it cannot be equitably implemented. When applied in typical school situations, reward structures based on the merit principle have tended to produce competition and divisive behavior on the part of involved staff members.

An additional stimulus for divisive behavior on the part of teachers involved in merit-rating plans has been

identified as an inappropriate process typically used for identification of superior teachers. This identification process is usually accomplished by means of subjective evaluations by building administrators. The variables typically evaluated include such factors as teacher characteristics and teacher behaviors.

Research has shown that groups rewarded on a group performance criterion tend to exhibit comparatively greater degrees of cooperation, cohesiveness, and productivity than do group members in situations of intragroup competition among members for rewards. The Scanlon Plan provides one practical example of a successful group incentive plan which has been applied in several industrial settings.

This evidence has provided the foundation for the reward distribution structure proposed in the group incentive model. In the model, designated professional and non-professional staff members of a given school are viewed as a school unit and rewarded on a group basis.

School effectiveness and teacher effectiveness have emerged as vague and often misinterpreted phrases. General agreement on the various components which unite to comprise a definition of teaching has not been realized. With no accepted definition of teaching, the evaluation of teachers or schools on a general criterion of effectiveness is severely hampered.

The writer has arbitrarily stipulated, for purposes

of this incentive model, that an effective school is one which produces comparatively superior outcomes in terms of pupil-performance.

A given school's level of effectiveness is determined by measured, average pupil-performance scores in reading and mathematics, and by pupil responses to measures of student perceptions of teacher and principal expectations. The average reading and mathematics scores at the third and sixth-grade levels of a given school are assumed to be representative of that school's average achievement level in these areas. A given school's average student-perception score is determined by responses to test items administered to the total student body of the school.

Since the socio-economic status of parents has been shown to correlate with pupil achievement, equalization factors are provided for schools of comparatively lower socio-economic composition. Equalization factors are determined by means of comparisons between the average achievement scores of the elementary school characterized by the greatest proportion of high socio-economic student composition, and the average achievement scores of each of the remaining schools within the district.

The qualification for reward by a given school staff is dependent upon the school's placement on district-wide rankings on each of the three measured variables. Those schools ranking above the 75th percentile on a given

variable become eligible for the incentive reward amount stipulated for allocation.

Although not a specific function of this thesis, the writer has attempted to indicate the need for, and desirability of, participation. The ultimate level of success realized by a plan such as proposed in this thesis, or any other organizational scheme, is viewed as being largely dependent upon the involvement of various segments of the organization.

Observations

The teacher merit literature reviewed by this writer has indicated a general lack of progress in the evolution of functional teacher merit plans. Earliest plans were structured so as to identify and reward those individual teachers viewed by administrators as performing in a superior fashion. The most recent plans examined have held to the same premise--merit rewards are most appropriately allocated on an individual teacher basis.

Research on group dynamics, which includes evidence of the effects of member behavior and productivity produced by competition for rewards, has been under investigation for a number of years. Although the available evidence has for some time indicated that group rewards may alleviate the type of difficulties encountered in attempted teacher-merit plans, these group strategies have not been applied to financial reward structures in education. The writer

believes that in any organization or group, the involved individuals determine the success or failure of various endeavors, regardless of the logical attributes a given plan may possess. The cogent point to be cited, however, is that certain organizational schemes may possess a structure or orientation which tends to inhibit certain behaviors on the part of the group members. Conceivably, the individual teacher merit schemes possess inherent characteristics which tend to produce undesired teacher behavior.

Closely related to the appropriate structure for incentive reward dispensation is the perspective from which one views the school. If a child's school experiences are viewed as a process of unrelated teachers and teachings presented in a series of segmented and isolated annual events, then perhaps those teachers providing the most meaningful experiences during a given year should legitimately be rewarded for their individual efforts. If, however, the school is viewed as a unit comprised of interacting segments, and is evaluated in terms of the level of effectiveness achieved by the total-school in efforts directed toward the realization of common goals, then school personnel are more accurately viewed as groups of individuals.

The writer believes that just as the related components which unite to comprise an individual are most meaningful when examined in the context of the total person, so are the varied aspects of the school most meaningfully

examined from the perspective of their functions in terms of the total school situation. Of greatest educational significance is what occurs to and within a child as a result of his total experience in a given school.

In determining the effectiveness of a school, the areas designated for evaluation may be viewed as contingent upon certain expressed values and priorities. A meaningful, responsive evaluation process should necessarily reflect the values and priorities established as functions of the school. Difficulties encountered in designing evaluative instruments and procedures which accurately measure progress toward established goals are a major source of the controversy centered around educational evaluation.

Subjective judgements are generally criticized on grounds of human inaccuracy, while objective measures are questioned in terms of validity and reliability. If, as many contend, the most accurate instruments available are those designed to measure cognitive skills such as reading and mathematics, then the increased application of these instruments tends to place added significance upon the variables they are designed to measure. This is not to demean the acquisition of cognitive skills, however, there has for some time been expressed a growing concern regarding the significance of affective considerations such as self-concept and perceptions of expectations. A growing body of knowledge is providing indications that certain of these affective

factors are not only important in their own right, but that they may have a direct, causal relationship with the level of cognitive learnings which students achieve.

Any indirect accordance of a secondary status to affective factors may be partially due to reluctance on the part of public school educators to use instruments of measurement which are of questionable reliability and validity. It is perhaps axiomatic to observe that improved measurement instruments are needed. But perhaps benefits which may be derived through the use of instruments presently available are not being fully realized. Measurement devices are currently available which are designed to measure self-concept, attitudes, and perceptions. Buros[9] cites numerous published instruments which measure student self-concept and attitudes at the elementary school level. In addition, measures such as the Coopersmith Self-Esteem Inventory, and the Student Questionnaire, which was mentioned in this thesis, may also be considered.

While the stipulated limitations of this study indicate that no attempts to determine what the goals of education or of a specific school should include, the structure of a model which requires evaluation of student perceptions indicates a bias of the writer. If man is viewed as possessing virtually unlimited potential and the degree to which

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[9]Oscar K. Buros, Tests in Print (Highland Park, New Jersey: The Gryphon Press, 1961).

this potential is realized is perceived as dependent upon interpersonal relationships, then certain aspects of the school environment emerge as priority considerations. The decision to reward teachers and principals on the basis of student perceptions of expectations is such a consideration. Although supporting research indicates a relationship between pupil perceptions and subsequent level of achievement, the effect of perceptions upon achievement is not the sole reason for inclusion of this factor. Variables such as student self-concept and student perceptions may hold potential for pupil accomplishments in school which are presently not considered attainable. Conceivably, future advancements will show that the aspects of school which determine not only what and how much children learn, but to a degree what they become, are dependent upon the ability of school personnel to influence the affective domain.

Evaluative procedures may be utilized not only to determine the relative progress of current endeavors, but may also be used to designate and accord significance to areas which show promise of future importance. Failure to recognize this dual role evaluations may assume, results in limiting the benefits which may be derived from the evaluative process.

In the judgement of the writer, a vast majority of the literature on teacher merit-rating suffers from a lack of objectivity. Perceived fluctuations in the quality of

the instructional program of a school, which are related to the adoption of a merit-rating plan, have been determined and reported by means of subjective observations. Those individuals favoring merit-rating for teachers have shown a tendency to report positive results due to merit-plans. Those opposed to such teacher merit plans tend to perceive negative influences produced by teacher merit schemes. Due to a lack of data obtained by systematic, objective assessments of attempted plans, it cannot, with any substantial basis for support, be stated that rewarding teachers in a manner consistent with the "merit principle" has any influence on a given school or teacher's effectiveness.

It is anticipated by the writer that the structure of the group incentive model proposed in this thesis will allow for the statistical determination of correlations between rewards and the achievement and perceptions variables. Such statistical analysis may provide insights as to the most appropriate applications of financial incentives.

It is further anticipated that the dependency of incentive rewards upon measured effectiveness will encourage evaluation in terms of outputs or results. As has been indicated in the body of the thesis, the prepondenance of teacher evaluations have been characterized by subjective judgements of behaviors and personalities. Consensus as to appropriate teacher behaviors and characteristics has not been forthcoming.

It would appear to the writer that when a purpose of evaluation is stipulated to be the determination of effectiveness, that the significant aspects of a school, for this purpose, are the results which are produced. Input factors such as teacher behaviors, curriculum selections, auxiliary services, and organizational patterns are thus viewed as the means for outcomes, not the ends. The incentive model proposed in this thesis attempts to place emphasis upon the ends; upon the outcomes which result from inputs.

Perhaps input factors have been accorded too much emphasis and attention at the neglect of the examination of outcomes produced by school. Again, this is not to propose that investigation and refinement of input factors is not important. From the literature reviewed it would appear, however, that educational evaluation procedures have traditionally tended to be applied to only selected aspects of the school setting. They have typically been oriented to the examination of input factors and have failed to receive adequate application directed to the measurement of results produced.

The pervasive practice of evaluation in terms of teacher behaviors and characteristics is viewed by the writer as a possible retardant to educational innovation and change. Teachers are encouraged to conform to the established normative performance criteria within a given school or school district. There exists no substantial body of evidence

which provides direction as to which behaviors, characteristics, and combinations of the two, produce desired results. If schools and school personnel are evaluated in terms of outcomes effected, they are then perhaps free to investigate various avenues which hold promise of influencing results.

The adoption of a pragmatic approach to the evaluation of school effectiveness would appear to be a promising course of action. If a given school is identified as able to consistently perform at a comparatively higher level of effectiveness, then insights may be gained from investigation into the causes for this superior performance. The analysis of success appears to be a more appropriate approach than does the continued evaluation of factors which may or may not be instrumental in producing desired results.

To an observer of the current political, economic, and educational factors which are affecting the public schools, the model developed in this thesis may appear as impractical and unworkable. A basic assumption under which the writer has functioned, however, is that both education and the factors which influence it will continue to display progress in terms of priority establishment and the level of sophistication at which problems are approched.

The model which has been proposed is not intended to provide a panacea for the various problem areas faced in elementary education. It represents one approach to a more effective utilization of financial rewards. The ultimate

benefit to be derived from the adaptation of such a plan being, of course, educational improvement.

The writer encourages research designed to identify relationships between group rewards and level of pupil performance on variables designated as goals of school. Insights pertaining to the attributes and limitations of group incentives, as applied in this model, may be most accurately achieved through evaluation of the plan as it functions in a practical setting. The writer would view as desirable, close analysis of the model as adapted and in operation in various school districts.

Another investigator reviewing the evidence cited in this thesis may devise a more practical, functional, model--this is desirable. It is the position of the writer that sufficient justification has been established to warrant the adaptation of this model to practical situations, where and when, the circumstances permit.

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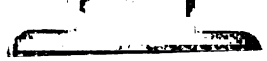

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APPENDICES

APPENDIX A

LETTERS OF TRANSMITTAL

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LETTERS OF TRANSMITTAL

January 22, 1971

Dr. LaVerd John
Weber Board of Education
1122 Washington Blvd.
Ogden, Utah 84404

Dear Dr. John:

A section of my doctoral thesis at Michigan State University will include a description of the teacher merit salary plan in Weber.

My prime source of information regarding the plan has been the analysis by James Steffensen published in 1962. Recent telephone contact with the board office in Weber led to my being referred to you as a possible source of additional information.

Any details you may be able to provide regarding the current merit structure and anticipated changes will be greatly appreciated.

Sincerely,

James L. Honchell

Apt. 925-H Cherry Lane
Michigan State University
East Lansing, Michigan 48823

JLH/lh

Weber County School District

1122 WASHINGTON BOULEVARD
OGDEN, UTAH 84404

January 27, 1971

WM. R. BOREN
SUPERINTENDENT

DALE SCHIMMELPFENNIG
CLERK

LAVERD JOHN
ASSISTANT SUPERINTENDENT

JAY B. TAGGART
ASSISTANT SUPERINTENDENT

Mr. James L. Honchell
Apt. 925-H Cherry Lane
Michigan State University
East Lansing, Michigan 48823

Dear Mr. Honchell:

Enclosed is a copy of letter sent to a Mr. Douglas J. Jones. I hope that the information in this letter will be of help to you.

Sincerely,

La Verd John

LA VERD JOHN
Assistant Superintendent

LJ:dm

January 22, 1971

Mr. Douglas Ward
Michigan State University
East Lansing, Michigan 48823

Dear Mr. Ward:

A segment of my doctoral thesis at Michigan State University includes a discussion of merit salaries for teachers.

On file at the Michigan Education Association headquarters in East Lansing is a letter directed by you to the Governor of the State of Michigan. The letter in question is in response to a proposal by the governor for statewide pilot studies in merit rating.

Due to your position at the time, as president of the MEA, I feel the correspondence accurately reflects the official views of the association regarding merit rating.

The contents of the letter would be valuable information for my study.

I request your permission to quote your letter to the Governor in its entirety in the text of my thesis.

Sincerely,

James L. Honchell

Apt. 925-H Cherry Lane
Michigan State University
East Lansing, Michigan 48823

JLH/lh

March 10, 1971

James L. Honchell
Apt. 925-H Cherry Lane
Michigan State University
East Lansing, Michigan

Dear Mr. Honchell:

In regards to your letter of January 22, 1971, you do have my permission to include the letter I wrote to the Governor in your thesis. The position on merit pay was developed directly from MEA policy statements, and, as I recall, was directed to the Governor during the initial states of the Education Reform drive.

The MEA is still supporting the experimental pilot study approach to merit rating, however, quite frankly there is little enthusiasm for such an approach and even greater skepticism that a fair and equitable program could be instituted and retained in a school system.

Sincerely,

Wm. Douglas Ward

4920 South Hagadorn
East Lansing, Michigan 48823

APPENDIX B

CORRESPONDENCE BETWEEN MEA PRESIDENT AND GOVERNOR OF THE STATE OF MICHIGAN

APPENDIX B

CORRESPONDENCE BETWEEN MEA PRESIDENT AND GOVERNOR OF THE STATE OF MICHIGAN

On Friday, August 11 there was discussion regarding teacher incentives and merit pay. The MEA position on merit pay, as adopted by its Representative Assembly (1968) has been: We believe that educators must continually evaluate their performance and effectiveness. However, no studies have yet been able to indicate a practical, objective method of distinguishing outstanding teacher success with sufficient validity to be applicable for salary purposes. When such methods and criteria are developed and accepted, we will welcome a procedure for salaries based on a "merit system." We are not opposed to merit pay and this was included in my remarks before the Commission. However, we do see many problems in effectively introducing a "merit" system into the State of Michigan.*

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*Based on official correspondence between Douglas Ward, President of the Michigan Education Association, and Governor William Milliken. August 15, 1969.

APPENDIX C

RECOMMENDATIONS FOR TEACHER MERIT SALARY PLANS

APPENDIX C

RECOMMENDATIONS FOR TEACHER MERIT SALARY PLANS*

Conditions in the setting in which salaries develop.

1. . . . a stimulus from some local source to which the school administrators are receptive.

2. A climate of community and official willingness to supply the additional funds needed for planned salary increases.

3. State level approval of merit pay.

4. Currently adequate salaries for professional staff members.

5. The overt sanction of the principle of merit pay by the teaching staff as shown by the teacher poll.

6. A poll should also ascertain that there is teacher confidence in the professional competence and integrity of the administrative and supervisory staff to carry out an impartial merit salary system.

The exploratory phase in the development of merit salaries.

1. . . . establishing a study committee of administrators, supervisors, teachers, school board members and other lay people. The study committee should initially have its functions well-defined as an exploratory group, and should thereafter have freedom of action to chart its own course of study.

2. The superintendent's role should be identified as that of a regular member of the study committee. Study by the group should include familiarization with relevant research, survey of merit salary practices, and survey of opinions in other school systems which have merit pay.

3. In the local school system, opinions on acceptance of the principle of merit pay and willingness to have a merit salary system should be systematically determined.

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*Robert C. Gibson, "Paying for Pedagogical Power," Phi Delta Kappan (January, 1961), 148-151.

4. Following such study, the group conducting it should have the responsibility for recommending on the advisability of adopting a merit salary plan. If it is advised, and if the local teachers' association officially approves the recommendation, the study group should be given the responsibility for devising a merit pay plan.

The work of the planning committee

1. . . . actual planning of the merit salary system can begin with the study group becoming the planning committee.

2. Fundamental in the merit salary plan should be provisions for flexibility in the evaluation of specialized personnel, identification of the personnel to evaluate teachers, and provision for discussion between evaluators and those evaluated.

3. . . . standards for quality of work should be developed and evaluation of all professional staff members should be provided.

4. The planning should actively involve the teacher representative on the committee, and should provide for acceptance of the final merit plan by the teaching staff before it is actually adopted.

5. Further assurance of success is provided by an unhurried approach which extends over two years or more from the beginning of initial study to adoption of merit pay.

6. The planning group should constantly identify intermediate, sequential objectives aimed at the final goal of a merit pay plan.

7. . . . development of standards for quantity of work and elimination of comparisons, to the fullest extent possible, in the evaluations of teachers.

8. An intermediate decision on acceptance of plans for teacher evaluation should be made by teachers.

9. Submission of the whole plan for community approval, following acceptance by the teachers, promotes its eventual success.

Continuing successful operation of merit salaries

1. A committee should be established to assess the success of the plan and identify changes needed. This committee should be composed of representatives of all concerned groups.

2. Careful considerate treatment should be given to teachers throughout the operation of a merit salary plan. These provisions apply: Acquaint teachers with their personal evaluations; provide opportunity to appeal ratings and placements on the salary scale with resultant review and adjustments if justified; acquaint new teachers with the merit salary provisions.

3. All information regarding teachers' personnel evaluations and salaries should be held in confidence among those directly concerned.

4. Continuing means should be available for assessing the confidence of teachers in the competence and integrity of evaluators.

5. A trial period should be established for the merit salary plan at the outset, and a course of action should be planned for the possible exigency of future discontinuation.

November 24, 1970

Mr. Douglas J. Jones
257 Greenway Park
Chapel Hill, North Carolina 27514

Dear Mr. Jones:

Thank you for your letter of November 17, 1970. In answer to your questions, I will attempt to review briefly our experience with merit pay, and also indicate what we are doing at the present time.

When Dr. T. H. Bell, who is now Acting Commissioner of Education in the U.S. Office was Superintendent in our district, we attempted a merit pay program. This program was part of a state-wide study which was conducted at that time to determine whether or not merit pay for teachers was feasible. A small amount of money was allocated for this project. It soon became evident that the legislators had in mind a demerit program, rather than a merit program. They felt that we could take money from the below-average teacher and give it to the meritorious teacher without increasing the total salary budget.

There were a few items which at least made us feel that our program was successful and which I would recommend as guidelines for any district moving into a merit pay program:

1. All teachers in the district, whether in merit or not, must be observed for a 30-minute teaching period at least twice during the school year by a team of observers comprised of either principals or District Office representatives.

2. Any teacher desiring to be considered for merit pay must make application to the Superintendent to be evaluated an additional eight times during the year by the above-mentioned team. The members of the observation team might change from observation to observation. The teacher may be evaluated by as many as ten different administrators during the year.

3. Some observations should be made unannounced and others with the teachers made aware of the observation in advance.

4. The observers should write a description of what the teacher and students are doing during the observation period. No judgmental statements are acceptable. One observer in our program wrote his notes in long hand and the second observer used a code which was developed by the district.

5. After the observation period is completed, the two observers and the teacher should sit down together and agree that the description of what has taken place is accurate. They formulate one accurate description of what has taken place during the observation.

6. After an agreement is reached, the events that have transpired during the observation period are classified into seven categories. These seven categories are the essential conditions for learning, and are as follows:

   a. Did the presentation take into account the differences in maturation?

   b. Was there sufficient motivation?

   c. Was there freedom from distracting and distorting anxieties?

   d. Was there provision for goal-directed practice and drill?

   e. Did the student have ample opportunity to perceive the effects of his trials and errors?

   f. Was provision made for the generalization, application and transfer of the learning?

   g. Was there teacher guidance in setting the learning goals?

7. After the observed activities are categorized, the evaluating team met again with the teacher involved and discuss with her the essential conditions for learning that should be provided. In areas where there is a weakness the teacher is helped to understand what she must do to strengthen the weakness. The teacher may say at this point, "If I strengthen these areas, then I will be a better teacher, because learning will take place more effectively." And the answer should be, "That is true. What we are trying to develop is meritorious teaching."

8. After the ten observations are made, the teacher must then apply again to have the observation records considered for merit pay. The decision regarding merit pay is made by the District Superintendent and his staff of directors and supervisors in light of: (1) the observations, (2) the teacher's past experience and performance, and (3) the teacher's score on the National Teacher Merit Examination.

This program of merit pay was discontinued because the legislature did not appropriate money to pay for the meritorious teaching above and beyond a regular salary schedule.

The legislature has appropriated $60,000.00 to our district during the 1970-71 school year for what they call Leadership Pay. This money is allocated to those teachers who are selected by the administrative staff and the Teachers' Association. To qualify, the teachers must be in leadership positions and work an extended period of time. The leadership pay must be at least 8% of the teacher's basic salary.

In addition to this program, the district pays some leadership money to teachers who are performing in leadership rolls or who are doing additional work. The total number involved thus far is 102 teachers out of 770.

I hope this information will be of help to you. We feel the program has been positive and has increased the morale of the teachers in the district. I am enclosing a copy of our regular salary schedule which you might use to figure the 8% leadership pay. If I can be of further help to you, please let me know.

Sincerely,

LaVerd John
Assistant Superintendent

LJ/br

APPENDIX D

CHARACTERISTICS OF ATTEMPTED TEACHER MERIT SALARY PLANS

APPENDIX D

CHARACTERISTICS OF ATTEMPTED TEACHER MERIT SALARY PLANS*

1. Careful investigation revealed sixty-nine merit rating salary plans in active use in the United States.

2. All sixty-nine merit pay plans in the study could be divided into seven distinct types: (1) the Supermaximum plans, (2) the Accelerated Increment type, (3) the Bonus plans, (4) the Multiple Track plan, (5) the Periodic Merit Evaluation type, (6) the Annual Outstanding Teacher Award, and (7) the Summer Merit Teacher Projects Program.

3. The pupil populations in the sixty-nine districts included in the study ranged from 647 to 15,491. However, fifty-two or 75.2 per cent of the total districts had pupil enrollments of fewer than 5000 pupils.

4. Sixty-four or 92.7 per cent of all the plans analyzed have been developed since 1946.

5. The typical merit salary plan was found to have been developed by a committee consisting of the superintendent or supervising principal, building principal, teachers, and representatives from the school board. Teachers usually constituted a majority of the committees.

6. The majority of superintendents disclosed that merit-rating plans were developed as a result of pressure from the school board. Few merit salary plans were developed at the request of the faculty and administration.

7. The majority of merit pay plans were found to include formal written criteria for measuring teacher performance. However, most plans did not have the evaluation policies and procedures reduced to a written form.

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*Irvin A. Karam, "Merit-Rating Salary Plans in Public School Systems of the United States, 1955-56," Journal of Educational Research, 53 (December, 1959), 144-148.

8. The percentage of teachers receiving some form of merit pay in the sixty-nine districts in the year 1955-56 ranged from 0 to 61 per cent of the total faculty. The mean was found to be 21 per cent.

9. The most frequently reported negative merit device was the withheld increment. Mere existence of negative merit features gave no true indication of the degree of use. Few teachers were found to have been penalized when salary was determined for 1955-56.

10. The selection of teachers for merit evaluation depended largely on the type of merit plan used within the district. In the two most frequently used types, the Supermaximum and the Accelerated Increments, approximately 60 per cent of the eligible teachers were rated. The remaining eligible teachers were eliminated by screening devices designed to restrict evaluation to the more likely candidates.

11. Criteria for choosing superior teachers were usually divided into several categories:

    a. Teachers Personal Qualities appeared as factors for determining merit in 75 per cent of all plans studied. They had a mean weighting of nine per cent of the total criteria.

    b. Eighty-eight per cent of the plans mentioned Teaching Ability of Effectiveness as a criterion. This factor received a mean weighting of sixty per cent when used.

    c. Pupil-Teacher Relationships were recognized as a category in 68 per cent of the plans and had a mean weighting of eleven per cent of the total.

    d. Relationships with Staff Members appeared in 59 per cent of the rating plans and received a mean weighting of ten per cent of the total when used.

    e. Fifty-nine per cent of the plans contained the category, Contributions to the Community. The average weighting was eight per cent of the criteria.

    f. The factor Professional Growth was found in 39 per cent of the plans and had a mean weighting of ten per cent.

    g. Contributions to the Total School Program appeared in 59 per cent of the plans. The average weighting was fifteen per cent of the criteria.

Though implied in many cases, only one plan specifically mentioned Pupil Achievement as a means of appraisal. Eleven, or 15 per cent, of the plans had no definite rating criteria other than the subjective statement "superior teaching."

12. The typical merit-rating plan involved several persons as evaluators. Superintendents participated in the appraisal in 77 per cent of the total plans examined. In approximately 73 per cent of the systems, the building principal served as an evaluator . . . . Teachers were serving as raters in only 11 per cent of the total plans.

13. In 86 per cent of the plans, the classroom observational visit was used as a technique for determining teacher effectiveness. In only a small percentage of cases were the visits limited to just one or the other type.

14. Approximately 65 per cent of the total plans contained some means whereby the teacher might appeal the decision of the evaluators. However, these privileges of appeal were seldom used.

15. There were no public acknowledgements made of merit award winners in 71 per cent of the districts using merit pay systems . . . . Announcement to the general public was made in only eight per cent of the districts.

16. Teacher opinion polls were frequently conducted by districts for the purpose of measuring teacher reaction to the merit plan.