Educational Considerations

Volume 20 | Number 1 Article 15

9-1-1992

Educational Considerations, vol.20 (1) Full Issue

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Recommended Citation

Litz, Chad (1992) "Educational Considerations, vol.20 (1) Full Issue," *Educational Considerations*: Vol. 20: No. 1. https://doi.org/10.4148/0146-9282.1497

ISSN No.
0146-9283

Fall
1992

educational considerations

published at kansas state university college of education

educational considerations

Vol. XX, Number I, Fall 1992

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PUBLICATION INFORMATION

Educational Considerations is published at the College of Education, Kansas State University. **Educational Considerations** are Kansas State University do not accept responsibility for the views expressed in articles, reviews, and other contributions appearing in this publication. In keeping with the professional educational concept that responsible free expression can promote learning and encourage awareness of truth, contributors are invited to submit conclusions and opinions concerned with varying points of view in and about education.

Educational Consideration is published two times yearly. Editorial offices are located at the College of Education, Bluemont Hall, Kansas State University, Manhattan, Kansas 66506–5301. Correspondence regarding manuscripts must be accompanied by a self-

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Printed in the United States of America.

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JOB DESIGN THEORY: School Structure, Teachers' Job Characteristics and Microeconomic Resource Allocation in Classrooms

Bettye MacPhail–Wilcox and Julia I. Dreyden

What is the relationship between structure, site-based management, and performance in schools? Such a relationship is clearly implicit in the push for schools to "restructure" and adopt site-based management. But, there is little agreement about what "restructuring" means in practical terms and few coherent theoretical models describing its potential effects.

Structural theories are helpful in defining school structure. Combining these with microeconomic resource theory clearly depicts one means by which policy and administrative practices affect student performance via teaching jobs. This perspective on school structure differs substantively from mainstream structural inquiry in education which focuses predominantly on the describing and classifying the degree of conflict, bureaucracy, or anarchy observed in schools (Sousa and Hoy, 1981; Firestone and Herriott, 1982).

This article presents a theory and investigation of job design in education. It is an elaboration and application of job characteristics theory (Hackman and Oldham, 1974). Job design theory asserts that the macro-structure in a school unit determines the micro-structure of a teacher's job. The resulting job characteristics then affect the nature of teaching work which subsequently influences student performance and thus a school unit's effectiveness. Subjects used for a partial test of this theory were elementary teachers in a southeastern state. The study follows the derivation of the theoretical framework.

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School Structure

Structure is the pattern of relationships, interactions, beliefs, and activity resulting from the ways tangible and intangible resources are distributed in an organization (Weber, 1946; Hage & Aiken, 1969; Hall, 1972). From a rational perspective, structure is prescribed and dynamic. That is, it is determined by the most efficient and effective means to accomplish a unique set of goals, given available technologies and resources, which will change from time to time.

Because structure is so complexly intertwined with goals, culture, and technology, once in place, it is extremely resistant to change. Thus, it perpetuates deeply embedded patterns of relating, thought and action in schools (MacPhail–Wilcox & Alford, 1988). Indeed, private sector organizations often find it necessary to lay off and rehire individuals in order to break the regularities associated with a previous structure.

The macro-structure of a school is established by the policy decisions which distribute and configure tangible and intangible educational resources. Tangible resources include employees, the students themselves, space, programs, materials, equipment, and supplies. Structural effects are illustrated by things like established teacher–student ratios, priority access to instructional materials, mandatory curricula, and grade level organization patterns. Intangible resources include symbols, rituals, responsibilities, decision authority, time, energy, incentives, information, affect, incentive and reward opportunities. These affect structure by establishing who makes what kinds of decisions, when they are made, how much time is allocated for instruction in a subject, who gets what amount of salary increment, and the like.

Ideally resources are distributed and arranged so that school goals can be optimized. Hence, restructuring schools and using site-based management requires that a school staff identify and implement structural changes which will improve school performance, enable the pursuit of new goals or the use of new technologies. As a result of these changes, new patterns of relating, authority, organization, ways of doing things, and roles will emerge.

This definition of structure is implicit in job characteristics theory (Hackman & Oldham, 1976) which seeks to predict and explain the effects of structure on employees. Few educators have suggested using (MacPhail–Wilcox, 1988) or actually used (Pastor & Erlandson, 1982) job characteristics theory as a framework for investigation in education. Given the practical value of the theory, rising levels of job dissatisfaction among teachers (Metropolitan Life, 1986), and the clear demand for better performance, this is unfortunate.

Structure and Job Characteristics

Job characteristics theory, a micro-structural perspective (Hackman & Oldham, 1974), asserts that five core job characteristics affect three critical psychological states of employees. The core job characteristics are the variety of skill demanded by the job, clarity of task identity, perceived task significance, level of autonomy, and receipt of feedback from the job. Critical psychological states are the experienced meaningfulness

of work, perceived level of responsibility for work outcomes, and knowledge of the results of one's work activities. Performance outcomes affected by job characteristics and critical psychological states are work motivation, job satisfaction, absenteeism, turnover, and work performance. Relations between these independent variables and work outcomes are moderated by three employee characteristics, knowledge and skill, strength of growth need, and satisfaction with the work context. These mediating variables allow for obvious instances of over- and under-stimulation in jobs for specific individuals, a theoretical modification derived from activation theory (Berlyne, 1967).

Job Characteristics Research

Hackman and Oldham (1975) developed the Job Diagnostic Survey to examine the effects of job characteristics. It yields a measure called the motivating potential of a job (MPJ) and research generally correlates this to other variables. Relationships between the JDS variables and external criterion variables are generally in the direction predicted by the theory. The reliability and discriminant validity of the instrument is characterized as satisfactory (Hackman and Oldham, 1975).

Research supports the theoretical contention that job characteristics affect internal job motivation (Hackman and Oldham, 1976; Pastor and Erlandson, 1982). A recent review of 200 studies (Fried and Ferris, 1987), suggested that the number of salient job characteristics may be greater than the original five and that the relationship between job characteristics and performance is mediated strongly by the growth needs of the employee. However, limited efforts to expand the theory (Evans et al., 1979) by adding another job characteristic—interaction with other people—and two expectancy variables, did not improve the model's explanatory strength.

There is evidence that actual job changes do alter perceptions of job characteristics and that supervisors and employees view the job characteristics of the same job similarly (Fried & Ferris, 1987), but research findings have not been as powerful or unambiguous as anticipated. It has been suggested that the same job characteristic can have both positive and negative effects (Evans, et al., 1979). For example, increasing the skill variety required in a job may increase meaningfulness and simultaneously increase role conflict and job ambiguity. While the former would contribute to motivation, the latter would not, and what moderates the direction of these effects is attributes of the job incumbent.

Factors such as age, income, tenure, father's education, income and attitudes toward work also affect employee perceptions of their task (O'Reilly, et al., 1980). With respect to affective work outcomes, job feedback, autonomy, and skill variety are most strongly correlated with overall job satisfaction, growth satisfaction, and internal work motivation, respectively (Fried and Ferris, 1980). Correlations with behavioral indices of performance and absenteeism are much weaker, though stronger for absenteeism. Task identity appears to have the strongest relationship with productive work outcomes. Relationships between psychological states and work outcomes show the same pattern, but it is weaker. Thus, the validity of retaining the psychological states as mediators between job characteristics and work outcomes is questionable.

In summary, job characteristics theory enjoys moderate support. The mediating effects of the critical psychological states are questionable. Job characteristics have consistent effects on affective work outcomes. And, the effects of job characteristics on performance appear to be mediated by personal and situational differences. In other words, the effects of job characteristics on performance can be offset or enhanced by personal dispositions and other internal and external conditions in the work unit.

The Relevance of Job Characteristics Theory in Education

Teacher motivation and resource allocation literature in education illuminate the relevance of job characteristics theory for educators. A steady exodus of veteran teachers and concurrent decline in persons entering the field indicates that many persons are not inclined to pursue or persist in a teaching career (MacPhail–Wilcox, 1981; Carnegie Corporation, 1986; Metropolitan Life, 1986). Why, apart from the notorious salary problems in education and the opening of alternative labor markets, might this be the case? Can school structure, as reflected in teacher job characteristics help explain this?

Teacher Work Motivation

Persons who pursue educational careers are strongly motivated by psychological benefits derived from "the work itself" and opportunities for self-improvement or growth (Gould, 1954; Sergiovanni, 1967; Lortie, 1969, 1975; Bruno, 1986). Further, veteran teachers report serious deficits in the availability of these rewards on the job (Sergiovanni, 1967). The presence and size of the deficit seems to be influenced by personal variables like age, gender, ethnicity, level of teaching assignment, years of teaching experience (Sergiovanni, 1967; Bartel, 1981; Blase, 1982; Anderson and Iwanicki, 1984).

Though the meaning of "work itself" is unclear, an implicit logical link between it and job characteristics is compelling (MacPhail–Wilcox, 1988). For example, structural decisions about the distribution of assignments and students to teachers will affect the knowledge and skill demands of a teacher's job. Recall the strong relationship observed between autonomy, skill variety, feedback and personal growth satisfaction. It seems reasonable to expect that authoritarian and bureaucratic conditions in schools, along with accountability initiative which severely restrict teaching behaviors will compromise these three job characteristics. If so, they will obstruct opportunities for "personal growth." Because teachers' desire personal growth opportunities from their work, teaching job characteristics may help to explain teacher shortages.

Additional evidence comes from comparing the behavioral indicators of affect toward work. Like job characteristics research, educational research indicates that teachers' level of job motivation is correlated with affective outcomes like absenteeism, turnover, and transfers (Spuck, 1974; Bridges, 1980; Bruno, 1986). In fact, Bridges (1980) suggested that relationships between job facet deprivation and absenteeism for teachers are mediated by job characteristics.

Relations between job characteristics and work productivity, or performance outcomes obtained by teachers have not been examined. However, in non-educational research, the job characteristic, clear task identity, is most strongly associated with performance measures. The ambiguous goals of education coupled with structural conditions which further muddy the precise task faced by individual teachers serve to exacerbate performance problems.

This brief analysis argues that the motivation, job satisfaction, and performance of teachers are important problems in education. It illuminates the link between work conditions which teachers want, need deficiencies they report, and job characteristics. It illustrates that the motivation and behavioral concepts investigated among teachers are similar to those investigated by job characteristic theorists. And finally, it illuminates how little is known about the effects of structure on teaching job characteristics and any subsequent effects on teacher satisfaction and student performance in education. Resource allocation literature provides the conceptual link between job characteristics and performance indicators.

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

Teaching Jobs and Resource Allocation in Schools

From a macroeconomic perspective, funds for schools are converted to educational resources—personnel, curriculum guides, books, supplies, equipment, facilities, and the like—which are then distributed to school units. These educational resources contain energy, information, skill, affect, space, and time, all of which are used to influence students' stocks of knowledge and skill.

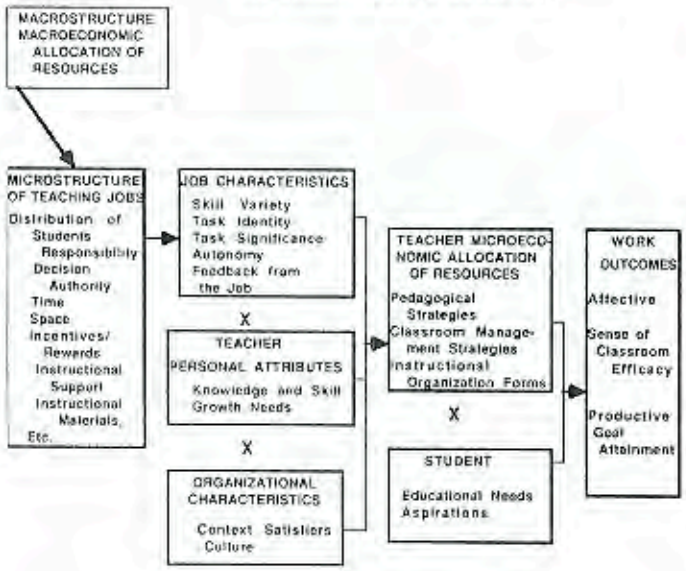
The structure of the school reflects the ways in which educational resources and students are distributed as a result of policy and administrative decisions. Thus structures establish the design of teaching jobs, and hence the job characteristics that teachers experience. The design of teaching jobs affects the stock and flow of energy, information, skill, affect, and time to students in the classroom, and these stocks and flows are the focus of microeconomic resource studies.

Microeconomic resource allocation theory considers classroom grouping, alternative instructional formats, differential time and material allocations as causal influences on student outcomes. When teachers use these strategies, they actually deliver different stocks of time, information, energy, space, and affect to students (Thomas, Kemmerer and Monk, 1982; Barr and Dreeben, 1983; Monk and Underwood, 1988). Research reports that teachers apply these technologies differentially across grades, content domains, and student aptitudes (Rossmiller, 1983).

Hence job design influences the nature of teaching work—"the work itself"—and subsequently the affective and productive outcomes of that work. The present framework argues that teachers use instructional technologies purposefully to "cope with" the design of their jobs. The strategies enable teachers to distribute their resources to students in ways which they believe will enable them to accomplish their goals. Thus, teacher job designs result in job characteristics that affect the nature of the "work itself." Teacher job designs, then, can be expected to influence both affective and productive outcomes in schools. The impact of job characteristics is mediated by individual and other organizational variables (Figure 1). This job design framework formed the theoretical basis for designing a data collection instrument and conducting an exploratory study of part of the model.

FIGURE 1

JOB DESIGN THEORY IN EDUCATION



An Exploratory Study of Job Design Theory in Education

This study conducted a partial test of the validity of the job design theory. An experimental design was combined with a survey method, using a stratified random sample of teachers who were randomly assigned treatments. The study assessed the effects of three structural elements (range of student achievement, class size, and subject domain) on teachers' perceptions of the job and their intentions to use particular classroom technologies to optimize performance.

The Teacher Job Questionnaire (TJQ), a 37-item survey was developed and pilot tested using a test-retest method (Carmines and Zeller, 1979) to assess reliability. No attempt was made to assess construct validity.

Test–retest analyses for 20 of 21 items produced coefficients ranging from .68 to 1.0. One item concerning the use of test data for instructional planning produced a coefficient of .41.

The survey requested responses to several sets of theoretically relevant items embedded in 12 hypothetical situations which were equivalent in all other aspects. The 12 hypothetical situations were created by permutation of three teaching job characteristics resulting from structural decisions—range of achievement among students assigned to the class (wide and evenly distributed, narrow and restricted to high achievement, narrow and restricted to low achievement), class size (15 or 25), and subject matter (reading or mathematics).

The survey was distributed to a stratified random sample of the population (N=29,500) elementary school teachers in a southeastern state (N=3,150). A nine-cell stratification, based on degree of urbanization and median household income was used to strengthen the generalizability of the findings. Personal tragedy delayed mailing the survey until very near the end of the school year, and this may have contributed to the low response rate (31%).

Follow-up analysis of respondents by identification numbers indicated no extreme bias in the distribution of responses across the nine cells when compared to the population sampled. Response rates from the most urbanized areas were slightly higher, as were response rates from teachers holding advanced degrees. Respondents were comparable in age, years of experience, and teaching assignments to the populations.

Teacher Job Interests and Characteristics

Most elementary teachers indicated that opportunities to be creative and imaginative (93.9%), to grow and develop personally (95.1%), and to have a sense of worthwhile accomplishment (97.7%) were either "very" or "extremely important" to them. However, 54% reported that it is either "very" or "somewhat" unrealistic to expect them to maximize student learning under present job conditions. What are some of these conditions?

Most elementary teachers (62.1%) reported working with classes that have a combination of advantaged, average, and disadvantaged students. They (86.9%) are assigned 21 to 30 students in a class, and 48.4% indicated that students in their classes have a "very wide" range of ability. Many respondents (43.6%) are assigned responsibility for teaching 5 to 6 subjects per day and 41.7% of the respondents reported that they prepare between 5 and 6 lesson plans per day.

Teachers were asked to use a 5-point scale (where 1="very little" or "never" and 5="always") to describe the amount of control they have over a selected set of eight job characteristics. These job characteristics included work schedule, type of students assigned, number of students assigned, content taught, staff development, curriculum development, tests administered, and teaching assignments. All mean scores fell between 1.17 and 2.78, indicating very minimal per-

ceived control of job characteristics. Lowest mean scores were for the numbers and types of students assigned to them. Highest mean scores were predictable. Teachers perceived themselves to have more control over content taught and tests used in the classroom. They report that their instructional content is most influenced by curriculum guides, the types of students they are assigned, and mandatory state testing. Mean scores were 4.6, 4.06, and 3.74 respectively.

Teachers were asked to describe five structural elements under real and ideal conditions. They specified the degree to which student achievement levels do influence the structural decisions and the degree to which student achievement levels should influence these structural decisions. The structural elements were the number of students they were assigned in a class, the way the class is organized, the time allocated to particular instructional topics, the availability of instructional aides, and instructional methods used with the class. In all instances, real and ideal structural decisions were discrepant. The largest discrepancies between the real and ideal conditions were observed for the number of students assigned a teacher and the availability of instructional aides. In other words, when student achievement is low, teachers believed a lower ratio of students to instructional personnel would improve their effectiveness.

Perceived Structural Influences on Instructional Practices and Performance Outcomes

Each respondent received one randomly assigned hypothetical teaching situation. The hypothetical situations were identical except for systematic variation in the independent variables. The independent variables were three configurations of student range of achievement in the classroom, two levels of class size, and two levels of subject domain.

Teachers were asked to characterize the hypothetical job and indicate how important each of 41 strategies would be if they were required to guarantee the success of each student in the scenario. They responded on the basis of an appropriate indicator arrayed on a Likert-type scale ranging from "not at all" to "extremely."

Analyses of variance tested whether the independent and interaction effects of the independent variables were significant in determining teacher responses (alpha $p<.001$).

Of the 41 instructional strategies presented to teachers, 27 (61%) met the criterion of significance. Range of student achievement generated significant differences in teachers' responses for 51% of the strategies. In other words, teachers often reported that they would change instructional strategies on the basis of the level or mix of student achievement in the class. By comparison, they reported intentions to change instructional strategies on the basis of subject assigned in only 7% of the instances. Specifically, subject generated significantly different intentions concerning the use of study groups or seminars, skill practice and drill activities, and range of students' achievement in the class. Class size led to intentions to change instructional strategy in only 5% of the instances. Here teachers reported that class size would influence the amount of instructional time lost to behavioral management.

The interaction of the three independent variables, range of achievement, class size, and subject, met the criterion of significance in only one instance when none of the independent variables showed a main effect. Thus, teachers appear to react most strongly to the macrostructural variable of range of student achievement among students assigned to a class. Subject domain and class size did not have as frequent or appreciable impact on teachers' choices of instructional strategies in the hypothetical situations. Survey questions, teachers' choices, and statistical data are presented in Table 1.

There were 15 items which teachers indicated would not change in response to student ability, class size, or subject domain. These were collaboration with other teachers about student performance, instructional plans and materials, classroom organization, teaching methods and behavioral management. The three independent variables did not alter the extent to which teachers would design unique instructional plans and materials for individual or subgroups of students, use learning resource centers, cooperative learning, demonstrations, discovery activities, skill practice, peer tutoring, or learning contracts. Apparently teachers do not view these instructional technologies as adaptive responses to the range of student achievement among those in a class, class size, or subject domain.

When teachers were asked which of five instructional strategies would affect the likelihood of their success with students in the hypothetical scenarios, their responses were consistent. Time allocated for instruction, the number of subjects the teacher was assigned, the kind of instructional materials available, and the ability to reschedule or reassign students based on their performance were viewed as very influential. Only differences in the range of achievement among students in a class elicited significantly different responses about the impact of an instructional aide on student performance. Post hoc analysis showed that teachers responding to the hypothetical scenario with homogeneous classes of low-achieving students believed an aide would influence their ability to succeed with students.

Teachers were asked to characterize the hypothetical job in terms of the degree to which it would be custodial, the breadth of knowledge they would need to be effective, how emotionally demanding it would be, how important it would be for them to observe other teachers, and the clarity of the task with each student. Range of student achievement had significant effects on each response, in expected directions.

Discussion

The evidence of this exploratory study appears to support several aspects of this tentative job design theory in education. First, teachers do perceive and react to important differences in the hypothetical job scenarios, which manipulate the range of achievement among the students assigned to them, the class size, and subject domain of instruction. Thus, teachers do appear to perceive differences in their jobs brought about as a result of macro- and micro-structural variations.

Second, teachers do report the intention to make adaptive responses to these macro- and micro-structural elements of their jobs in order to "guarantee the learning of students in the class." The most frequently significant changes resulted from variation in the homogeneity and level of student achievement. Less frequent significant effects were observed for class size and subject domain. This may indicate a hierarchy of job difficulty for teachers who are asked to insure the learning of a particular group of students. These findings have implications for those who make educational policy which determines macro-structure (student/teacher ratios, availability of instructional aides, etc.) of schools. Similarly, these findings have implications for administrators who through their decisions influence the micro-structural elements (i.e., subjects assigned, number of subjects assigned, etc.) of teachers' jobs.

Third, teachers clearly view such things as testing and planning, instructional methods, and instructional group organization, and the use of teacher aides as technologies to be varied systematically with classes in which students have wide or narrow ranges of achievement. However, they did not appear to recognize other instructional, organizational, and classroom management technologies included in the survey as being differentially appropriate for students or classes. This may suggest an intuitive, rather than an explicitly reasoned

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DOI: 10.4148/0146-9282.1497

Table 1
Main Effects of Teacher Use of Classroom Resources By Student Range of Achievement, Class Size, and Subject

If you are to succeed with every student, how important would it be:	Source	DF	Type III SS	Mean Square	F Value	Pr>F
1. To:						
a. Analyze student performance as a basis for planning.	Achieve	2	6.94	4.47	11.72	.0001*
b. Have access to adequate information for diagnosing and assessing student performance by subject or skill.	Achieve*Size*Sub	5	12.28	1.12	2.61	.0003*
c. Design unique instructional plans and materials for individuals or subgroups of students.	Achieve	2	19.99	9.99	21.62	.0001*
2. To use the following **instructional formats** with this class?						
a. Small group instruction.	Achieve	2	66.29	33.15	48.97	.0001*
b. Whole group instruction.	Achieve	2	83.83	41.92	3.61	.0001*
	Subject	1	11.08		8.94	.0030
c. Independent work.	Achieve	2	16.52	8.26	7.72	.0005*
d. Individualized instruction.	Achieve	2	43.67	21.84	24.69	.0001*
3. To use the following **instructional methods** with these students?						
a. Learning resource centers.	Achieve	2	2.83	1.42	2.05	.1298
b. Cooperative learning.	Subject	1	4.63		6.71	.0097
c. Demonstrations.	Achieve	2	0.26	0.13	.20	.8228
d. Lectures.	Achieve	2	43.84	21.93	17.46	.0001*
e. Discussion groups/seminars.	Achieve	2	60.63	30.32	23.49	.0001*
	Subject	1	33.59		25.47	.0001*
f. Discovery activities/manipulatives.	Achieve	2	4.71	2.36	5.84	.0030
g. Skill practice/drill.	Achieve	2	15.41	7.57	6.98	.0100
	Subject	1	37.56		35.44	.0001*
h. Peer tutoring.	Achieve	2	13.44	6.72	4.63	.0100
i. Individualized learning contracts.						
4. For you and other **teachers to collaborate** about:						
a. Student performance information.	Achieve	2	5.159	2.58	2.46	.0861
b. Teaching methods and tips.	Achieve	2	1.941	0.971	1.71	.1813
c. Instructional plans and materials.	Achieve	2	0.341	0.170	0.24	.7832
d. Classroom organization tips.	Achieve	2	0.591	0.296	0.35	.7062
e. Behavioral management tips.	Achieve	2	5.370	2.685	3.12	.0447
5. To assign the following to **individuals or small groups of students:**						
a. Different books and materials.	Achieve	2	35.34	17.67	18.55	.0001*
b. Different amounts of time for study and practice.	Achieve	2	45.27	22.65	26.74	.0001*
c. Different lesson content.	Achieve	2	74.48	37.24	34.66	.0001*
6. To **control:**						
a. The range of achievement levels in your class.	Subject	1	11.22		11.47	.0007*
b. The teaching methods you use (Methods= discovery, etc.)	Achieve	2	4.2111	2.11	3.38	.0346
7. How much **instructional time would be lost** to:						
a. Controlling student behavior in order to "have class."	Achieve	2	129.21	64.04	43.68	.0001*
	Size	1	22.46		14.08	.0002*
b. School or environmental distractions.	Achieve	2	33.16	16.68	13.56	.0001*
c. Students' lack of preparation in preceding years.	Achieve	2	170.48	85.24	58.55	.0001*
d. Students' disruptive family circumstances.	Achieve	2	45.81	22.91	17.50	.0001*
e. Teaching students appropriate social behaviors.	Achieve	2	78.57	39.29	30.64	.0001*
	Size	1	10.24		7.62	.0059

Table continued on next page.

Table 1—Main Effects of Teacher Use of Classroom Resources By Student Range of Achievement, Class Size, and Subject (continued)

If you are to succeed with every student, how important would it be:	Source	DF	Type III SS	Mean Square	F Value	Pr>F
8. Your **job would:**						
a. Be primarily custodial.	Achieve	2	17.60	8.58	8.77	.0002*
	Size	1	9.08		9.21	.0025
b. Demand a broad base of knowledge.	Achieve	2	166.38	83.19	61.67	.0001*
c. Be emotionally demanding.	Achieve	2	48.83	24.42	17.57	.0001*
	Size	1	15.88		11.14	.0009*
d. Allow you to observe other teachers.	Size	1	12.49		7.20	.0074
e. Have a clear beginning and end with each student.	Achieve	2	43.20	21.60	12.69	.0001*
9. How much influence would the following have on your ability to succeed with a student:						
a. The time allocated for instruction in this subject.	Achieve	2	0.271	0.136	0.19	.8264
b. The number of students you are assigned to teach.	Achieve	2	3.791	1.895	2.40	.0915
c. The kinds of purchased instructional materials available.	Achieve	2	4.318	2.159	1.90	.1499
d. The assignment of an aide or another teacher to your class.	Achieve	2	18.80	9.40	7.57	.0005*
e. The ability to reschedule and reassign and/or reschedule students throughout the year based on their performance.	Achieve	2	1.11	0.555	0.47	.6265

*p<.001

Data for Achieve only are cited where p=nonsig. Complete statistical information is available from the authors.

approach to what educational microeconomic resource scholars call methods of deliberately varying the stock and flow of educational resources to students in the classroom. It might also reflect a simple value preference, instructional bias, or continuation of past practice.

For example, learning centers can be used by teachers to vary the content of information, reading level of that information, time for practice and drill, time for remediation, enrichment or discovery learning for different students in a class. But, teachers in this study did not report intentions to vary their use of learning resource centers to adapt to the three structural conditions. Similarly, cooperative learning, though touted as highly effective with particular groups of students and instructional situations, was not conditionally applied in response to either range of student achievement, class size, or subject domain. Teacher educators may need to give more deliberate attention to appropriate contingency uses of instructional, organizational, and classroom management strategies in teacher training and inservice programs.

The results of this exploratory study of job design in education are encouraging. As demands for accountability continue to mount, it is critical that policy makers, administrators, teachers, and teacher educators recognize the effects that their individual decisions have on the design of teaching jobs and the subsequent effects on affective and productive outcomes of teaching. Job design theory offers a promising explication of school structure and an alternative theory of educational effects. With refinement and further investigation, particularly using quasi-experimental and experimental designs, it has the potential to impact policy, practice, and knowledge in education in ways which can improve accountability at all levels of the educational hierarchy.

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While climate is a somewhat global concept involving a generalized perception of a school by its publics, the question remains as to whether there are variables within the context which are related to, and may have some explanatory power in, determining climate scores.

A Search For Variables That Affect School Climate in Hawaii

John A. Thompson and Sandra Young

One of the strands of the movement aimed at creating or enhancing citizen participation in the decision making in public schools has been the assessment of the perceptions of the climate of the school by various publics. Climate assessment is not a new concept; it has been carried on for at least 40 years. However, with the advent of an increased interest in shared and decentralized decision making the idea of climate as one of the measurement tools for determining the over all "health" of a school has assumed added importance.

While climate is a somewhat global concept involving a generalized perception of a school by its publics, the question remains as to whether there are variables within the context which are related to, and may have some explanatory power in, determining climate scores. Are there groups of such variables which are predictors of higher or lower climate? Are there groups of school related variables that account for a significant amount of variance in climate scores among schools? Among the groups, are there single variables that differentiate between higher and lower climate schools?

All of these questions are investigated within an educational environment that allows for the control of a number of organizational variables which might confound the results in other states. The State of Hawaii has the only statewide public school system in the United States. Also, no property tax is levied for the support of public education. Thus, the effects of governance and tax concerns (specifically as they apply to local education) are controlled. The previous statement is not meant to intimate that citizens in Hawaii do not have concerns about governance and taxes, only that these matters do not vary because of different policies in various areas of the state.

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Relevant Literature

There has been no paucity of studies in the general area of school climate. The search for a way to describe climate began three and one-half decades ago when Halpin and Croft (1963) first identified the need to address the "personality" or "climate" of the workplace as an important construct in the study of organizations. As the theory and administration of the business world began to impact on the educational scene, it was inevitable that the school would become a focal point for climate studies. The interest in this type of study has been so great that a number of taxonomies of definitions and synonyms, i.e., social system, open or closed environment, "press," atmosphere, "feel," culture milieu, personality, etc. have been investigated and explored in hundreds of research studies (Anderson, 1982).

Kelley (1980) refers to climate as "prevailing or normative conditions which are relatively enduring over time and which can be used to distinguish one environment from another. Climate conditions, as perceived by persons who work within, or know, a particular environment, serve as the basis for establishing expectations and interpreting events or activities which occur within that environment.

Beginning in the sixties, studies have centered on a variety of aspects, such as school size, facilities, or school climate type (Flagg, 1964; McPartland & Epstein, 1975; Rutter et al., 1979), student background, achievement and sex (Herr, 1965; Brookover & Lezotte, 1979; McDill & Rigsby, 1973), and principal characteristics or performance (Weber, 1971; Wiggins, 1972; Ellett & Walberg, 1979; Brookover et al., 1979; Kenworthy, 1989). Other studies have investigated the relationship between school climate and teacher-related variables such as age, experience, educational level (Miller, 1969; Kimpston & Sonnabend, 1975; Brookover & Lezotte, 1979) and parent/community characteristics such as socioeconomic status, and parent involvement with the school (Phi Delta Kappa, 1980; Hoover–Dempsey, Basslet & Brissie, 1987).

This study examines school climate as delineated by scores derived from the CFK, Ltd. School Climate Assessment Scale, and its relationship to 88 school-related, student-related, teacher related, principal-related, and parent/community-related variables.

Hypothesis

The major hypothesis tested was "There is no discrete set of multiple predictors that can be used to discriminate between higher and lower climate schools."

However, due to methodological limitations of the statistical technique employed, it was necessary to establish three subhypotheses to be able to test the major hypothesis. These were: There is no discrete set of (I) Input, (2) Institutional, and (3) Output variables which will produce a non-chance classification of schools on the basis of higher or lower climate.

The second hypothesis was: There is no univariate variable which will produce a significant difference between higher and lower climate schools.

A third hypothesis set as an ancillary question, "Is there a set of multiple predictors which would describe a significant percent of the total variance in scores on the climate instrument?"

Population and Sample

The population to which this study sought to generalize consisted of the 121 elementary schools in six of the public school administrative sub-districts in the state of Hawaii. The CFK Ltd., School Climate Assessment Scale had been administered in three of these sub-districts. The study utilized a sample of 41 elementary schools out of a total of 52 which had participated in the climate survey. These particular 41 schools were included in the sample because the same principal was

DOI: 10.4148/0146-9282.1497

the administrator at the school at the time the survey was conducted as well as during the following school year. The predictor data which were collected for this study, consisted of 88 parent/community-related, teacher-related, principal-related, school-related, and student-related variables, that were also gathered from the information files in the Hawaii State Department of Education (DOE).

The question of whether the 41 schools in the sample had characteristics similar to the population was tested by carrying out a series of fourteen chi-square tests on variables such as size of student population, teacher size, experience, principal experience, age, sex, and several community demographics. With the exception of sex of the principal in one of the sub-districts (although not the other five), there were no significant differences between the sample schools and the population. Thus generalizations appeared to be warranted.

Selection of Variables

The criterion variable in the study, School Climate Scores, were derived by totaling, then dividing the mean scores on the CFK Ltd. School Climate Assessment Scale of three stakeholder groups (the parental community, teachers, and classified staff) within each school. These produced mean School Climate Scores which ranged from a low of 6.80 to a high of 10.60.

The 88 predictor variables were selected from a larger list of potential variables which had been generated from both previous studies and observations in the schools. A decision was made to classify the variables into an input–output model which separated the large number into five groups. (A list of the variables is included in Appendix 1). One group consisted of 15 input variables, the parental community-related variables, which consist of those characteristics which students bring with them upon entering the school system. The characteristics which are directly associated with the schooling process and system were termed the Institutional Variables. They were divided into three groups which included 15 teacher-related variables, 36 principal-related variables, and 16 school-related variables. The fifth group consisted of the student Output variables. These consisted of 6 student achievement or behaviorally related measures.

The data on the criterion variable were derived from the CFK, Ltd., School Climate Assessment Scale scores. With the exception of the information on the scores of the principals on the Minnesota Satisfaction Questionnaire, all of the data regarding the predictor variables were gathered from existing files found in various locations of the DOE Department of Information System Services.

Design of the Study

This study utilized a criterion-group ex post facto design in which the two criterion groups were identified as higher and lower climate schools.

The purpose of the study was 1) to ascertain the relationship between the 88 predictor variables which were organized into five groups of input–output measures, and higher and lower climate schools, 2) to determine if statistical differences existed between the mean scores of variables which may have been identified as differentiators of higher and lower climate schools, and 3) to discover if there was a combination of variables which would describe the variance in the climate scores of the schools.

Data Gathering Procedures

Demographic information generated from DOE files and data gathered from two instruments, were utilized in this study. The latter included the CFK, Ltd., School Climate Assessment Scale (scores of which were used as the criterion variable of this study), and the Minnesota Satisfaction Questionnaire (21 of the scales used as principal-related predictor variables).

To determine the range of scores for higher and lower climate schools, a frequency distribution was run on the 41 climate scores. From the frequency distribution, three clusters of scores were delineated: a higher climate group of 17 schools, a lower climate group of 17 schools, and a group of seven schools which were titled Unclassified. This third group was later used to test the utility of the classification equation. A t-test of means was performed and determined that the lower and the higher climate groups represented different populations beyond the $p = < .05$ level.

Findings

The three preliminary or sub-hypotheses were examined, the results of each were used to test the major Hypothesis. SubHypothesis 1 was derived to determine whether a set of Input (Parent/Community-Related) variables could be found that would produce a non-chance classification of schools into either higher or lower climate. Six predictor variables were found by using a stepwise discriminant function analysis. Three positive canonical coefficients were identified. These were Percent Caucasian Students, Percent of Families on Public Assistance, and Percent of Students of Chinese descent (identified in the text as Percent of Chinese Students). Three negative canonical coefficients were also identified. These Families with Parent(s) Unemployed, Percent of Families with Federal Connections, and Percent of Single Family Households. Thus, the null hypothesis that there is no discrete set of input variables that will produce a non-chance classification of schools into either higher or lower climate was rejected.

The second sub-hypothesis examined the question, "Is there a set of Institutional variables that will produce a non-chance classification of schools into either higher or lower climates?" Nine Institutional variables were identified as predictors in the runs of stepwise discriminant function analyses. These were six Minnesota Satisfaction Questionnaire (MSQ) job satisfaction reinforcers, Ability Utilization (the chance to do something that makes use of my abilities), Authority (the chance to tell other people what to do), Compensation (my pay and the amount of work I do), Co-workers (the way my co-workers get along with each other), Creativity (the chance to try my own methods of doing the job), and Responsibility (the freedom to use my own judgment) and three demographic variables (Administrative Tenure, Female Principals, and School Tenure) for the principals in the study.

Upon examining the Teacher-related factors, six discriminators were found. These were Percent of Caucasian Teachers, Percent of Teachers Age 56 and Older, Percent of Filipino Teachers, Percent of Teachers Age 35–45, Percent of Teachers Age 46–55, and Percent of Other Teachers (which means teachers with ethnic identities other than Caucasian, Japanese, Chinese, Filipino, Black).

A final set of Institutional variables, those which are associated with the school itself, were identified. They were Total Number of Teachers (in the school), Student Average Daily Absence, and Number of Crisis Suspensions.

Hence, as a result of the findings in which 18 Institutional variables were identified as predictors, the null hypothesis, that there is no discrete set of Institutional variables that will produce a non-chance classification of schools into either higher or lower climate, was rejected.

In the examination of Sub-Hypothesis 3, the null hypothesis that there is no discrete set of Output variables which would produce a non-chance classification of schools into

Table 1
Results of Action and Steps of Stepwise Discriminant Function Analysis of Predictor Variables

RESULTS OF ACTION OF VARIABLES IN ANALYSIS AFTER STEP 11 —

Step Entered	F to Remove Score	Variable Identified	Wilks' Lambda	Sig.	Stand. Canon. Coeff.
1	8.9970	% Age 56+	.79822	.0087	0.86022
2	2.2903	Creativity	.67415	.0027	0.46752
3	15.037	% Fed. Connect.	.58127	.0011	–1.53391
4	15.920	Ave. Daily Ab.	.47345	.0002	–1.15965
5	15.107	% Age 35–	.32797	.0000	1.09565
6	9.1476	% Chinese Stud.	.27232	.0000	0.88107
7	3.3303	% Other Tchrs	.25285	.0000	–0.50705
8	3.8167	Co-workers	.22861	.0000	0.60876
9	1.5025	Total Tchrs.	.20913	.0000	–0.42880
10	1.7700	% Cauc. Tchrs	.19930	.0000	0.49828
11	1.1810	Crisis Susp.	.18869	.0000	0.31648

CANONICAL DISCRIMINANT FUNCTIONS—

Eigenvalue	% Variance	Canonical Correlation	Chi-Square	D/F	Sig.
4.29928	100.00	0.9007292	42.525	11	0.0000

CLASSIFICATION RESULTS—

Actual Group	No. of Cases	Predicted Group Membership Group 1	Group 2
Group 117 Lower Climate	17	0 100%	0.0%
Group 216 Higher Climate	1	15 6.2%	93.8%

Percent of "Grouped" Cases Correctly Classified: 96.97%

either higher or lower climate was not rejected. No set of Output variables could be identified, which met the significance criteria ($p = < .05$).

The major hypothesis examined the question, "Can a set of multiple predictors be identified that can be used to discriminate between higher and lower climate schools." All of the 24 Input and Institutional variables which were identified in testing the preliminary sub-hypotheses were examined in a series of stepwise discriminant function analyses to ascertain an answer. A set of eleven predictors which qualified as having significant canonical correlations was identified (see Table 1). Seven of these variables predicted classification into the higher climate group. These were Teachers Age 35 or Younger, Percent of Chinese Students, Percent of Teachers Age 56 or Older, the MSQ sub-scale Co-workers, Percent of Caucasian Teachers, the MSQ Creativity, and Number of Crisis Suspensions. The variables which produced negative relationships were Families with Federal Connections, Average Daily Absence, Percent Other Teachers, and Total Number of Teachers.

The eigenvalue for this culminating run was a robust 4.29928. Classification results were also very strong as 96.97 of the cases were correctly classified into higher or lower school climate based on these discriminators.

Therefore, the findings as presented in Table 1 resulted in the rejection of the hypothesis that there is no discrete set of multiple predictors that can be used to discriminate between higher and lower climate schools.

To test the accuracy of the model which classified schools into higher or lower climate a question was asked whether the 11 variables identified as significant discriminators in the first hypotheses could accurately classify the seven schools which were included in the Unclassified group of climate scores. Stepwise discriminant function analysis was used to test the accuracy of the classification model. The results showed that 100 percent of the schools with school climate scores ranging between the higher and lower climate groups, could be correctly classified; that is the three schools with lower actual scores were predicted as lower and the four higher schools were classified as higher classified by using the model (see Table 2 for the classification results).

This set of eleven significant discriminators predicted higher and lower climate on a multi-variate level. The second hypothesis was tested as to whether any of these predictors

Table 2
Summary of Classification Results of Predictor Variables Using Discriminant Function Analysis

Actual Group	No. of Cases	Predicted Group Membership Group 1	Group 2
Group 1 Lower Climate	17	17 100%	0 0.0%
Group 2 Higher Climate	16	1 6.3%	15 93.8%
Ungrouped	7	3 42.9%	4 57.1%
Total	40		

Percent of "grouped" cases correctly classified: 96.97
Percent of "ungrouped" cases correctly classified: 100.0%

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DOI: 10.4148/0146-9282.1497

were robust enough to differentiate among schools on a univariate basis. A null hypothesis of no significant difference among higher and lower climate schools for each of the variables which had been identified as multiple classification predictors was established. One-way analysis of variance was employed to test these hypotheses. Seven of the 11 and Institutional variables produced significant differences at or beyond the $p = < .05$ level.

The Positive contributors were identified as Percent of Chinese Students (a Parent/Community-related variable), Creativity, and Co-workers (MSQ subscale factors related to principals) and the Percent of Teachers Age 56 and Older. Of the three school-related variables, the Number of Teachers in the School and Average Daily Absence were identified as negative contributors to school climate. The Number of Reported Crisis Suspensions was also significant, however, in testing for the homogeneity of variance in these seven variables, using the Bartlett's Box F statistic, one variable, Number of Reported Crisis Suspensions, was identified as violating the homogeneity of variance criteria. Consequently, caution should be taken when making conclusions about this variable.

The third hypothesis raised the question of whether the variables identified as predictors would explain a significance amount of the variance in the climate scores. The data indicated that this was indeed possible. Using a stepwise multiple regression analysis, using the variables previously reported (see Table I) the output included five Institutional variables, but none of the Input, variables. The findings are reported in Table 3. Two were Principal-Related and Creativity and Activity variables (which predicted 24 percent and 13 percent of the variance, respectively), one School-Related, Average Daily Absence variable (which accounted for 17 percent of the variance), and two Teacher Related Institutional variables, percent of Chinese Teachers and Percent of Teachers Age 35 or Younger (which accounted for about 5.6 percent and 6.7 percent of the variance, respectively). These five variables accounted for a very respectable 66.4 percent of the total variance in the Climate scores of the 41 schools.

Conclusions

From the statistical analyses used in examining the hypothesis, several conclusions may be formulated. First, there are factors which appear to be related to school climate in elementary schools in Hawaii, and these factors may be identified by use of multivariate analysis statistical techniques. A set of 11 Input and Institutional factors were identified as statistically significant discriminators of higher or lower school climate. The resulting eigenvalue of 4.29928 demonstrated that the strength of the discriminators was very substantial and the correct classification of 40 of 41, or 96.97 percent of the total number of cases into climate groups illustrated the accuracy of the model.

Table 3
Results from Stepwise Multiple Regression Analyses Indicating the R Square and Beta Weights of the Predictor Variables with School Climate as the Criterion

STEP	VARIABLE	MULT. R	R SQUARE	ST. ERR.	B	BETA
1	Creativity	.4884	.2385	.6472	.1565	.6912
2	Av. D. Abs.	.6410	.4109	.1723	−.3907	−.6173
3	Activity	.7355	.5409	.1301	−.1015	−.4324
4	% Chin. Tch.	.7727	.5971	.0561	.0422	.2978
5	% Age < 36	.8150	.6643	.0672	.0272	.2957
	(Constant)				9.8684	

Consequently, a discriminant function model can be a tool for describing the multiple relationship between variables that are related to climate. This tool has revealed some specific aspects of "the place called school" which bring us closer to being able to identify some of the roots of the construct of climate. It is a first step toward focusing on specific aspects in schools which are related to and may influence climate rather than the more general statements on the subject which are often found in the research.

Secondly, the model utilized a large number of easily attainable demographic variables which are generally available in school districts throughout the United States. Therefore, replication of the process and statistical analyses performed on these variables is feasible.

Next, the results of the study indicated that the Output variables (Student Achievement-related factors) were not significant predictors of school climate, nor were they correlated with any of the predictor variables. In the six sub-districts to which this study sought to generalize, academic success, or the lack thereof, does not appear to have a major impact on the perception of groups on the climate of the school. This challenges a number of findings in the literature which have linked positive school climate to high student achievement scores. It is particularly interesting since the teachers were a prominent part of the response set of the CFK, Ltd. School Climate Assessment scale.

Another conclusion borne out by this study related to the failure of the usual predictors of school climate to be identified as significant discriminators. Per Pupil Expenditure, Compensation, Principal's Administrative Tenure, Median Family Income, Number of Sick Leave Days Taken by Teachers, and Percent of Student Transiency have been identified in other studies as indicators of lower school climate. These factors were not found to be significant variables which relate to either lower or higher climate in this study.

Of five variables identified in the prediction equation, the MSQ principal-related variables of Creativity (the chance to try my own methods) and Activity (being able to keep busy all the time) were found to contribute 37 percent of the variance in climate scores. It is noteworthy that this finding reinforces the Kenworthy (1988) study in which Creativity and Activity were the only factors found to be significant predictors of school climate. The importance of these factors, in particular, were dramatically shown in the first stepwise multiple regression run when the Minnesota Satisfaction Questionnaire scores were included with all of the predictor variables. With the MSQ factors included, the regression analysis accounted for 66.4 percent of the variance. When these scores of the principals were eliminated, the amount of variance described dropped to 39.5 percent. Thus, it appears that certain measures of satisfaction of the principals (as captured in the MSQ) seem to be important indicators of school climate.

Other results of the multiple regression analyses proved to be notable. Two teacher-related factors contributed significant variance to the model. These were Percent of Chinese

Teacher, which was determined to contributed 5.6 percent, and Percent of Teachers Age 35 or Less, which was responsible for 6.7 percent of the variance. Together, these variables were found to contribute about 12 percent of the total contribution of 66.4 percent, which the prediction equation was able to correctly identify.

The descriptive statistics of the two variables were as follows. The mean for Percent of Chinese Teachers was 4.6 percent of the teaching force with a range of zero to 20.0 percent. The standard deviation was 5.155. The mean for Percent of Teachers Age 35 and Less was 17.3 percent while the range was zero to 37.5 percent. The standard deviation was 8.437. It is interesting to note that in both variables the ranges differed greatly, yet the two factors were found to be related to higher climate. Thus, it may be concluded from the data that in school where there are a larger percent of Chinese teachers and a larger percent of relatively young teachers, climate is likely to be higher. Attempts to ascertain the causal aspects of these findings would be an interesting question to address in another study.

Finally, Average Daily Absence was found to be an important negative predictor variable in both of the techniques of analysis. While it would be expected that there might be lower school climate in schools where student attendance is very poor, the descriptive data on Average Daily Absence showed that the mean for the sample was 5.3 days and the range was from 3.1 to 8 days of absence, which is not excessive. It may be concluded then that even when the number of absences is relatively small in a school, it is a factor which is closely related to lower climate. An administrator would do well to keep accurate records and a watchful eye on trends of growing absence in a school.

The purpose of this study was to try to determine whether there was a set (or sets) of multi-variant factors that are related to school climate in Hawaii. Also whether they have, at least, some explanatory power in terms of the influence they exert on the direction (higher or lower) of climate scores. It is clear that such an interactive set of variables does exist and that there is a high probability that the findings in the sample schools can be generalized to the balance of the elementary schools in the state. Most of the variance occurred in what is termed the Implementation variables, that is a set of things over which the schools have, at least, nominal control. This is important because it suggests that if schools (or a school district) is interested in changing the overall perception of its stakeholders that these are things over which they exert control which can be modified and such change may help to achieve that end.

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APPENDIX 1

A List of the Variables Included in the Discriminant Function Analysis

Input: Parent/Community Variables
- Ethnicity
  - % Chinese Students
  - % Filipino Students
  - % Part-Hawaiian Students
  - % Japanese Students
  - % Caucasian Students
  - % Other Students
- % Federally Connected Students
- % Families on Public Assistance
- % Students on Free–Reduced Lunch
- % Of High School Graduates in the Attendance Area (U.S. Census)
- % Of College Graduates
- % Of Unemployed in the Attendance Area
- % Of Single Parent/Households in Attendance Area
- Family Size
- Median Income in the Attendance Area

Input: Institutional Variables
- Principals
  - Age
  - Administrative Tenure
  - Tenure at the School
  - MSQ Sub-scale
  - Ability Utilization

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DOI: 10.4148/0146-9282.1497

- Achievement
- Activity
- Advancement
- Authority
- Company Policies
- Compensation
- Co-workers
- Creativity
- Independence
- Moral Values
- Recognition
- Responsibility
- Security
- Social Service
- Social Status
- Supervision–Human Relations
- Supervision Technical
- Variety
- Working Condition
- General Satisfaction

Input: Teacher-Related

- Ethnicity
  - % Chinese Teachers in the School
  - % Japanese Teachers in the School
  - % Filipino Teachers in the School
  - % Part-Hawaiian Teachers in the School
  - % Caucasian Teachers in the School
  - % Mixed
  - % Other
- Experience
  - % 1–5 years
  - % 6–10 years
  - % 11–20 years
  - % 21 plus years
- Age
  - % 35 or less
  - % 36–45
  - % 46–55
  - % 56 plus

Input: Institutional

- Number of Sick Leave Days Taken
- Total Number of Teachers in the School
- Total Enrollment
- Per Pupil Expenditures
- % Student Transiency
- District Exceptions—In
- District Exceptions—Out
- Average Daily Absence
- Number of Crisis Suspensions
- Number of Regular Suspensions
- Number of Class A Incidences
- Number of Class B Incidences
- Number of Class C Incidences
- % Special Education Students
- Number of Students of Limited English Proficiency

Output:

- SAT Reading
  - % Above Average (7–9 Stanine)
  - % Average (4–6 Stanine)
  - % Below Average (1–3 Stanine)
- SAT Mathematics
  - % Above Average
  - % Average
  - % Below Average

The findings of this study suggest that the compatibility between the vision and reality of SBM in small rural districts make these sites ideal candidates for further analysis of the dynamics of increased school site autonomy. As our nation's larger districts begin experimenting with decentralization, the experiences of these smaller districts may help to inform their decisions and expectations.

Administrators' Perceptions of School-Based Management

Stephen L. Jacobson and Beth E. Woodworth

Introduction

Over the past few years there has emerged a growing body of literature that challenges long-held beliefs about optimal size for units of organizational governance. For example, Peters and Waterman (1982) found that in the private sector unusually effective corporations were more commonly characterized by chunking (i.e., breaking into smaller, more manageable units) than their less successful competitors. Similarly, research on public education over the past decade has serious questions about the long-held assumption that "bigger is better" when it comes to school-size units of governance (Coleman, l986; Goodlad, 1984; Haller & Monk, 1988; Lamitie, 1989; Walberg & FG 1987). Advantages previously thought attainable only through economies of scale (Conant, 1959) are now believed achievable, and even outweighed by the academic and social benefits of smaller, more manageable educational units (Walberg, 1989). As Coleman (1986 observed, "It seems likely that relatively low unit sizes make it easier to create and sustain a positive district ethos."

An emergent "small is beautiful" orientation coincides with and may have helped to promote, important changes in the governance structures of many school districts across the U.S. Under the "school-based management" (SBM), some of the largest school districts in the U.S. have begun experimenting with decentralization through increased school site autonomy. The Chicago City School District, for example, has shifted considerable authority from its central bureaucracy to local school councils in each of its nearly 600 public New York City; on the other hand, participation in SBM is selective, and in 1990, while 400 of the district's 1,021 elected to apply, only 80 (8%) were finally selected for local decisionmaking (Cooper, 1990).

In contrast to these very large, multi-site, urban school districts, small rural districts are more often comprised of but one or two geographically isolated schools. Perhaps not surprisingly, Clune & White (1988: 11) found that SBM is, "more common in smaller districts, and larger districts seem to confront more obstacles to decentralization". Indeed, it seems reasonable to suggest that in many small districts SBM may simply be a reality of practice rather than a carefully considered policy. So, while SBM may be relatively new for many urban and suburban districts, there are some who believe that, "School based decision-making is what rural schools are all about" (Swanson & Jacobson, 1989: 42).

The purpose of this paper is to report the perceptions of administrators in small rural districts about SBM, and compare them with the perceptions of administrators in larger, non-rural districts. The study is based on the assumption that administrators in small rural settings are more likely than their counterparts in larger, non-rural districts to have first-hand experience with site autonomy, whether or not their district is formally, engaged in SBM. To test this, we compared administrators perceptions of what *should* occur in terms of SBM with what they perceive *does* occur if their district is presently engaged in SBM. If our assumption holds, we would expect to find less difference between the SHOULD—DOES perceptions of administrators in small rural districts than of administrators in larger non-rural districts. Furthermore, if administrators in small rural districts are more experienced with site autonomy, then their observations should be helpful in informing the decisions of administrators in other sites contemplating or engaged in implementing SBM.

Structural Compatibility and Organizational Stability

Cooper (1990) has suggested that a shift from central management to school-site control in American public education represents a new organizational paradigm in the making. Furthermore, he argues that such a shift can be expected to bring with it potentially troublesome periods of transition, as participants in the process realign their respective role-relationships. Specifically, Cooper examines the relationship between the organizational structure of school district administrative control and that of the teachers' union with which it negotiates. He postulates a 2 X 2 matrix from which four union/district relationships can be derived:

(A) centralized/centralized,
(B) centralized/decentralized,
(C) decentralized/centralized, and
(D) decentralized/decentralized.

Cooper suggests that when the organizational structures are compatible, as in A and D, there is stability, whereas the incompatible relationships depicted by B and C are unstable, transitional states that emerge as schools move from centralized, hierarchical decision making to decentralized, shared local decision making.

Cooper's model is helpful in attempting to anticipate administrator responses. Small rural districts, particularly those that have but one or two sites, can be perceived as existing in both quadrants A and D. That is, these small districts can, on the one hand, be seen as highly decentralized across organizational structures since decision making of both administration and the union, by necessity, is reduced to the school site. Yet, at the same time, though these "smaller, less bureaucratic systems ha(ve) more unions, with less routinization of procedures, small rural districts may still retain a hierarchical, "rule-centered structure", characteristic of highly centralized decision making, because "all unions strive to standardize operat-

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https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

ing procedures" (Cooper, p.12). In other words, though their size may suggest decentralized organizational structures, small rural districts may in fact be operating in just as highly centralized a fashion as their larger suburban and urban counterparts, although on a reduced scale.

Whether they are considered functionally decentralized or centralized, Cooper's model suggests that the organization of these small rural districts is likely to be perceived as highly compatible and relatively stable. Larger, non-rural districts, other hand, particularly those desirous of chunking into smaller units of governance, would more likely be perceived as structurally incompatible and organizationally unstable.

Comparing the perceptions of school administrators from rural districts with those of administrators in larger, districts should provide insight as to whether this argument holds. Although our questions do not address perceptions of structural compatibility and organizational stability directly, as noted earlier, we use the SHOULD— DOES perceptions of administrators as proxies for these variables. Specifically, we expect to find less difference between the SHOULD—DOES perceptions of administrators in smaller districts given that they function within organizations that are predicted to be more compatible and stable. Furthermore, these predicted stable, compatible relationships between school administrations and teachers' unions should make labor relations appear to be less of an obstacle to shared decision making for administrators in small rural districts than in larger, non-rural districts.

Study Design

In order to examine the perceptions of rural and non-rural school administrators about SBM, responses originally collected for the 1989 *Executive Educator* (Heller, et al., 1989) nationwide survey of school were reanalyzed. This third annual survey reported demographic and perceptual data from school administrators across the U.S. The survey itself was an 81 item questionnaire mailed to a stratified random sample of 4,800 administrators drawn from a population of more than 110,000 by an independent education data-base firm. There was a 31.4% return rate, yielding responses from 1,509 administrators representing every state with the exception of Hawaii. In our secondary analysis of the data we categorized respondents on the basis of district size and demographics, producing two groups: (1) 195 administrators from small rural districts with enrollment less than 1000; and, (2) 913 administrators from non-rural districts with enrollment greater than 1000[1] In all, 49 states are represented in this sample.

For this study, we focused on five key questions asked administrators in the original survey:

(1) Who *should* participate in SBM?
(2) Who, presently, *does* participate in decision-making?
(3) What areas *should* a school have authority over?
(4) What areas *does* your school have authority over?
(5) What are the most serious obstacles to SBM?

Only those administrators who indicated that their districts currently have SBM in effect were asked to respond to questions #2 and #4. For these two questions the number of respondents was reduced to 85, or 43.6% of the sample from small rural districts, and 534 or 58.5% of the sample from the larger, non rural districts.

For the first two questions, i.e., who SHOULD and DOES participate in SBM?, respondents were asked to check either 'yes' or 'no' to each of the following individuals or groups: (1) principals, (2) teachers, (3) parents, (4) students, (5) community members, (6) the school board, and (7) the superintendent. For questions three and four, i.e., what SHOULD and DOES your school have authority over?, respondents were asked to say yes or no to each of the following 13 areas: budgeting, hiring, staffing, curriculum, textbook selection, purchasing, scheduling, length of the school day, school calendar, starting salary, pay raises, maintenance, and teacher evaluation. Finally, question five asked respondents to identify the most serious obstacle to SBM from among: (1) labor contracts, (2) state law, (3) board policies, (4) accreditation, or (5) other. Respondents who selected "other" were then asked to identify the obstacle.

Responses of the administrators from the small rural districts were then examined and compared to those of their counterparts from larger, non-rural districts using the chi-square test for differences in probabilities. In essence, each question became a 2 x 2 contingency table with the administrator sample groups on one axis and their yes responses on the other[2] For example, the question whether teachers should participate in SBM would be summarized in the following 2 x 2 table:

	Yes	No
Rural<1000	N (%)	N (%)
Nonrural>1000	N (%)	N (%)

Figure 1. 2 x 2 Contingency Table

Next we used the McNemar test for significance of changes to examine within-group differences in the SHOULD—DOES categories. In this case, the resulting 2 x 2 contingency tables summarize each administrator sample group's paired responses to the two questions. For example, the response of administrators in small rural districts to the paired questions of whether teachers should and do participate in SBM would be summarized in the following 2 x 2 contingency table:

Rural<1000	
N Should/Does	N Should/Does not
N Should not/Does	N Should not/Does not

Figure 2. McNemar Contingency Table

The test statistic for the McNemar test was then used to determine the probabilities of the cells that indicate disagreement, i.e., Should/Does not, and Should not/Does. As noted earlier, we expected to find less disagreement between the SHOULD—DOES perceptions of administrators in larger non-rural districts.

Findings

(1) Who *should* participate in SBM?

Table 1A reports the percentage of respondents from each administrator grouping who believe the following individuals or groups should participate in SBM: principals, teachers, parents, students, community members, the school board, and the superintendent. From high to low in order of frequency, administrators in small rural districts selected principals (99.5%), teachers (93.8%), the superintendent (81.4%), the school board (69.6%), parents (68.0%), students (53.1%), and the community (52.6%), as participants in SBM.

Administrators from larger, non-rural districts also named principals (99.1%) and teachers (98.0%) most often, although these administrators selected teachers significantly more often ($p < .01$) than their rural counterparts. After these first two choices, a number of interesting differences appear in the frequency of selections between these two groups of administrators. For example, 82.5% of the non-rural administrators thought parents should be participants in SBM, which is significantly more than the rural administrators ($p < .01$). Furthermore, only 49.1% of non-rural administrators named the school board, significantly less than their rural counterparts ($p < .01$), making this the lowest rated category and the only one across both groups that received less than a majority.

Finally, although the superintendent was selected by two-thirds of the non-rural administrators (66.6%), this was significantly less than the support the position received from rural administrators. Indeed, 15.9% fewer non-rural administrators named the superintendent than parents, while 13.4% more rural administrators named the superintendent than parents.

(2) Who *does* participate in decision-making?

Table 1B reports administrator perceptions of who does participate in decision making in those districts where SBM is currently in effect. We find that the rank–order of the participants for administrators from both groups is identical. From high to low by order of frequency (with rurals reported first in each pair), administrators identified principals (98.8%, 98.3%), teachers (90.6%, 83.3%), the superintendent (84.7%, 71.0%), the school board (68.2%, 45.3%), parents (36.5%, 40.4%), students (32.9%, 26.0%), and finally, the community (27.1%, 23.4%) as participants in SBM decision making. The only differences of note were that both the superintendent and the school board were selected significantly more often ($p < .01$) by the rural administrators.

When we compare the SHOULD—DOES perceptions of administrators from small rural districts we find that the rank–order of the participants is identical. In other words, for these administrators, participation in SBM is pretty much what they believe it should be, although there is some disagreement over the participation of parents, students, and community (see Table 1C). In each of these categories, a significantly greater percentage of rural administrators felt that these three groups of individuals should participate in decision making than is presently the case ($p < .01$). While not statistically significant, it is interesting that a greater percentage of rural administrators note superintendent involvement in decision making than they believe should be the case.

In contrast, the SHOULD—DOES perceptions of the non-rural administrators reveal significant differences in every category except the principal and the school board. Like their rural counterparts, a significantly greater percentage of these administrators felt that parents, students, and the community should participate in decision making than is presently the case ($p < .01$). In addition, a significantly greater percentage would like to see teachers participate in SBM ($p < .01$). Non-rural administrators also perceive significantly more superintendent involvement in decision making than they believe there should be ($p < .01$).

(3) What areas *should* a school have authority over?

Table 2A reports the percentage of administrators who believe a school should have authority over each of 13 areas. From high to low in order of frequency, administrators in small rural districts selected schedule (92.1%), purchases (78.0%), texts (74.9%), curriculum (73.8%), staffing (72.8%), budgeting (69.1%), maintenance (66.5%), hiring (59.2%), evaluations (47.1%), school calendar (26.7%), length of day (26.2%), pay raises (17.3%), and starting salary (14.7%).

Administrators from larger, non-rural districts also named schedule (94.6%) and purchases (85.6%) most often, although these administrators selected purchases significantly more often than their rural counterparts ($p < .01$). Other areas non-rural administrators named significantly more often were budgeting (84.4%, $p < .01$) and staffing (80.6%, $p < .05$). Areas non-rural administrators named significantly less often ($p < .01$) were curriculum (55.6%), texts (54.0%), length of day (10.9%), calendar (9.3%), starting salary (3.9%), and teacher evaluations (33.8%) .

(4) What areas *does* your school have authority over?

Table 2B reports the percentage of administrators who believe their schools already have authority over each of the 13 areas. From high to low, administrators in small rural districts selected schedule (91.7%), purchases (84.5%), texts (84.5%), curriculum (78.6%), staffing (72.6%), maintenance (66.7%), budgeting (63.1%), hiring (44.0%), evaluations (42.9%), school calendar (29.8%), length of day (26.2%), pay raises (22.6%), and starting salary (21.4%). Administrators from larger, non-rural districts also named schedule (90.4%) and purchases (84.1%) most often, and the response frequency of the two groups was not significantly different. The only other reasons that were not significantly different from those of rural administrators were responses to hiring (35.8%) and staffing (61.8%). Budgeting (75.8%) was named significantly more often ($p < .05$) by non-rural administrators, while curriculum (44.4%), texts (44.6%), length of day (4.0%), calendar (5.9%), starting salary (0.9%), pay raises (2.1%), maintenance (49.6%), and teacher evaluations (16.7%) were named significantly less often ($p < .01$).

Perhaps the most interesting findings come from the within-group comparisons reported in Table 2C. For the administrators from small rural districts, the only significant differences that exist between what they perceive schools should have authority over and what their schools do have authority for occurs in the areas of hiring ($p<.01$) and length of day ($p < .05$). When it comes to hiring, a significantly greater percentage of these administrators feel that their school should have more authority over this area than is presently the case. The second area, length of day, requires some further explanation since the percentage of respondents reported for the separate categories of SHOULD and DOES are identical. The results of the McNemar test indicate that even though these percentages are identical, a significantly greater number of rural administrators feel that their school *should* have control over the length of the school day but *does not*, than those who believe that their school *should not* have control over the length of the school day but *does*.

Another interesting, though not statistically significant finding from the rural respondents is that there are several areas which these administrators believe their schools have more authority than they should have. Specifically, these areas are curriculum, texts, purchases, calendar, starting salary, and raises.

In contrast, the responses of administrators from the larger, no rural districts revealed significant differences between the SHOULD—DOES categories across all 13 areas ($p < .01$). Furthermore, these differences were all in the same direction, i.e., they believe that school-sites should have more decision making authority than they presently do.

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

(5) What are the most serious obstacles to SBM?

Figure 3A reports the percentage of rural administrators who perceive each of the five categories as obstacles to SBM, and includes a description of those obstacles identified as 'Other.' From high to low, administrators in small rural districts identified labor contracts (30.2%), school board policies (21.9%), state law (20.1%), Other (18.9%), and accreditation standards (8.9%). Within the 'Other' category, the most frequently identified obstacle was resistance to change, followed by lack of resources and accountability.

Figure 3B reports the responses of the non-rural administrators. For these administrators, labor contracts (44.2%) and school board policies (20.6%) are also most frequently seen as obstacles to SBM, while Other (16.4%) and state law (14.3%) reverse positions when compared to their rural counterparts. Accreditation standards (4.7%) remains the least frequently mentioned obstacle across groups. within the 'Other' category, the most frequently identified obstacles were again resistance to change and lack of resources. Additionally, in rough order, these administrators named the desire for standardization, and difficulties with politics, accountability, communications, lack of trust, and apathy.

Summary and Conclusions

The findings of this study indicate that marked differences exist in the perceptions of administrators from small rural districts and those of administrators from larger, non-rural districts when they are queried about what SBM should be. Administrators from these districts differ both in who they believe should participate in SBM and what areas *should be* governed at the school site. Yet, in those districts where SBM has been implemented, there appears to be far less discrepancy between the perceptions of administrators from the two groups. In other words, the findings suggest that (1) the reality of SBM is more consistent across districts than administrators' expectations of what it should be, and (2) that there is far greater compatibility in the perceptions of administrators from small rural districts than those of administrators from larger, non-rural districts between what SBM should be and what SBM is.

Thus, while rural administrators believe there should be greater participation by parents, students and community members in SBM than exists at present, when compared to the participation of principals, teachers, the superintendent, and the school board, the relative involvement of these three constituencies appear to be pretty much as rural administrators perceive they should be, as noted by the fact that the rank orders are the same across the SHOULD and DOES categories. In contrast, administrators from larger, non-rural districts idealize a far greater level of participation for teachers, parents, students, and the community than the reality of SBM appears to allow. Furthermore, for these administrators, the superintendent appears to be a participant in SBM significantly more often than they would prefer.

Arguably, administrators across most districts perceive SBM as an organizational approach that should have as broad a base of participation as possible. In the larger, non-rural districts this seems to become idealized to an extent that may simply be incompatible with the reality of SBM. Note, for example, that while administrators in the two groups desire and perceive principals and teachers as being SBM's key players, non-rural administrators are next most desirous of parental involvement, while rural administrators rank both the superintendent and school board ahead of parents. Yet, in the light of practice, both groups more often report superintendent and school board participation in SBM than parental. We speculate that because of district size, parents and community members in small rural districts have greater access to the superintendent and school board. As a result, they can participate in decision making indirectly, thereby making their involvement less formal. Whether or not SBM has been officially adopted as district policy, rural administrators appear to recognize the indirect participation of parents and the community as a reality of their workplace.

The obverse would suggest that because of district size, parents and community members in larger, non-rural districts typically have less access to their superintendent and school board. Therefore, in order to participate in decision making, administrators from these districts believe that the involvement of parents and community members should be formalized. But once SBM is instituted, and authority decentralized, traditional decision makers such as the superintendent and school board become more accessible. And, as in the small rural districts, parents and community members can participate in decision making informally. This finding is consistent with Clune and White's (1988: 28) observation about SBM that, "decision-making authority is not necessarily redirected within the school, but instead is simply given to people who have traditionally been in charge.

As noted previously, administrators from the two groupings also differed in terms of the areas they believe should be governed at the school site, as well as those areas they perceive are governed when SBM has been implemented. Moreover, our findings revealed far greater compatibility in the perceptions of administrators from small rural districts about what SHOULD occur in SBM and what DOES occur, than for the perceptions of administrators in larger, non-rural districts. Recall that this study was based on the assumption that, due to district size, administrators in small rural settings are more likely to have first-hand experience with site autonomy, whether or not they were formally engaged in SBM. The findings tend to support our assumption.

Furthermore, the discrepancies in the SHOULD—DOES perceptions of administrators from the larger, non-rural districts are consistent with Cooper's conception of instability and transition through shifts in organizational control. While administrators in these districts would like to see greater school-site authority over all 13 areas, they are pressured by both the teachers' union and the community to standardize policies and practices across sites. Note that while administrators from both groups ranked labor contracts first in terms of obstacles to SBM, it was identified far more frequently in the larger, non-rural districts (44.2%) than in the small rural districts (30.2%). Furthermore, the issue of standardization was mentioned only by administrators from the larger districts. Two administrators comments perhaps best capture this concern, i.e., "Citizens want 'sameness' in all elementary schools in town", and "Equity issues are central because of the size of our district—over 130,000 pupils."

The related issues of sameness and equity are particularly helpful in explaining why site authority over length of day (4.0%), calendar (5.9%), starting salary (0.9%), and pay raises (2.1%) is uncommon in large districts that have SBM. In contrast, in small rural districts that may have only one or two sites, standardization is simply not an issue, and though length of day, calendar, starting salary, and pay raises were the areas least likely to be governed at the rural school site, each was noted by more than 20% of the respondents.

Clune and White (1988: 16) have suggested that for many districts SBM may be more a 'frame of mind' than a 'structured, technical system.' Whether one perceives decision making in small rural districts as highly decentralized or simply centralized on a reduced scale, our findings suggest that the existing structural and organizational realities of these districts produce remarkable similarities between the vision and reality of SBM. In contrast, the organizational complexity and hierarchical structure of larger districts seems to foster marked discrepancies between administrators' 'frame of mind' as to what

SBM should be and their perceptions of SBM as a 'structured, technical system' once implemented.

One might imagine that for administrators in these larger, non-rural districts, the disparity between their vision of SBM and its practical reality may produce a sense of frustration if they are unable to reconcile the two. The findings suggest that while they feel there should be more teacher, parent, student, and community involvement in decision-making, there will probably be less than they desire. And, while they feel there should be less superintendent involvement in decision-making, there will probably be more. Furthermore, they need to reconcile themselves to the fact that SBM will probably yield less site autonomy across all areas of decision making than they anticipate. On the other hand, administrators in small rural districts formally implementing SBM will probably be pleasantly surprised to discover that their plans produce anticipated results in terms of both decision making participation and school site authority.

The findings of this study suggest that the compatibility between the vision and reality of SBM in small rural districts make these sites ideal candidates for further analysis of the dynamics of increased school site autonomy. As our nation's larger districts begin experimenting with decentralization, the experiences of these smaller districts may help to inform their decisions and expectations.

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TABLE 1: Participation in School-Based Management

A. Who Should Participate

	Rural<1000 Freq. (%)	Rank	Nonrural>1000 Freq. (%)	Rank	Chi Square
	N=195		N=913		
Principal	193 (99.5%)	1	904 (99.1%)	1	0.259
Teachers	182 (93.8%)	2	894 (98.0%)	2	10.754**
Parents	132 (68.0%)	5	752 (82.5%)	3	20.719**
Students	103 (53.1%)	6	524 (57.5%)	5	1.240
Community	102 (52.6%)	7	487 (53.4%)	6	0.043
School Board	135 (69.6%)	4	448 (49.1%)	7	26.878**
Superintendent	158 (81.4%)	3	607 (66.6%)	4	16.623**

B. Who Does Participate

	N=85		N=534		
Principal	84 (98.8%)	1	525 (98.3%)	1	0.119
Teachers	77 (90.6%)	2	445 (83.3%)	2	2.921
Parents	31 (36.5%)	5	216 (40.4%)	5	0.484
Students	28 (32.9%)	6	139 (26.0%)	6	1.778
Community	23 (27.1%)	7	125 (23.4%)	7	0.537
School Board	58 (68.2%)	4	242 (45.3%)	4	15.419**
Superintendent	72 (84.7%)	3	379 (71.0%)	3	6.993**

C. Who Should and Does Participate in School-Based Management

	McNemar Value	McNemar Value
	N=85	N=534
Principal	1.000	0.059
Teachers	1.333	80.182**
Parents	26.947**	238.948**
Students	15.125**	170.017**
Community	23.059**	161.161**
School Board	0.040	2.492
Superintendent	0.800	10.330**

* P<.05 **p<.01

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[1]Note that from the original survey we lose 408 administrators who work either in rural districts >1000 or non-rural districts <1000.

[2]This categorization meets the following required assumptions:
(1) each sample is a random sample;
(2) the two samples are mutually exclusive; and
(3) each response can be categorized as either yes or no.

TABLE 2: Areas of Authority

A. School Should Have Authority

	Rural<1000 Freq. (%)	Rank	Nonrural>1000 Freq. (%)	Rank	Chi Square
	N=191		N=908		
Budget	132 (69.1%)	6	766 (84.4%)	3	24.562**
Hiring	113 (59.2%)	8	500 (55.1%)	7	1.073
Staffing	139 (72.8%)	5	732 (80.6%)	4	5.902*
Curriculum	141 (73.8%)	4	505 (55.6%)	6	21.586**
Texts	143 (74.9%)	3	490 (54.0%)	8	28.236**
Purchases	149 (78.0%)	2	777 (85.6%)	2	6.804**
Schedule	176 (92.1%)	1	859 (94.6%)	1	1.737
Length of Day	50 (26.2%)	11	99 (10.9%)	10	31.417**
Calendar	51 (26.7%)	10	84 (9.3%)	11	44.599**
Starting Salary	28 (14.7%)	13	35 (3.9%)	13	34.093**
Raises	33 (17.3%)	12	62 (6.8%)	12	21.819**
Maintenance	127 (66.5%)	7	608 (67.0%)	5	0.016
Evaluations	89 (47.1%)	9	307 (33.8%)	9	11.959**
	School Does Have Authority				
	N=84		N=528		
Budget	53 (63.1%)	7	400 (75.8%)	3	6.042*
Hiring	37 (44.0%)	8	189 (35.8%)	8	2.119
Staffing	61 (72.6%)	5	327 (61.8%)	4	3.642
Curriculum	66 (78.6%)	4	235 (44.4%)	7	33.822**
Texts	71 (84.5%)	2.5	236 (44.6%)	6	46.188**
Purchases	71 (84.5%)	2.5	445 (84.1%)	2	0.009
Schedule	77 (91.7%)	1	478 (90.4%)	1	0.145
Length of Day	22 (26.2%)	11	21 (4.0%)	11	54.740**
Calendar	25 (29.8%)	10	31 (5.9%)	10	49.758**
Starting Salary	18 (21.4%)	13	5 (0.9%)	13	84.052**
Raises	19 (22.6%)	12	11 (2.1%)	12	65.560**
Maintenance	56 (66.7%)	6	262 (49.6%)	5	8.435**
Evaluations	36 (42.9%)	9	88 (16.7%)	9	30.769**

C. Areas of Authority School Should and Does Have

	McNemar Value	McNemar Value
	N=84	N=528
Budget	3.556	44.495**
Hiring	9.800**	98.256**
Staffing	2.130	92.627**
Curriculum	0.250	49.199**
Texts	0.333	47.641**
Purchases	0.333	10.051**
Schedule	0.400	19.692**
Length of Day	5.762	36.213**
Calendar	0.529	15.680**
Starting Salary	0.067	10.714**
Raises	0.000	16.030**
Maintenance	0.529	76.475**
Evaluations	1.500	69.511**

* P<.05 **p<.01

The influence of demographic and social variables indicate that perhaps it is time once again for Illinois to consider a cost-of-education index in the school funding formula.

Prediction Variables for District Operating Expenditure Per Pupil in the State of Illinois

Mary M. Polite

A topic of long-standing concern and controversy to school finance has been the issue of expenditure equity (Swanson & King, 1991; Wood, 1990; Guthrie, Garms, Pierce, 1988; Arnold, Hickrod, Hubbard, 1985). Beginning with the 1954 United States Supreme Court decision in *Brown v. Board of Education*, and continuing through the influx of federal programs of the 1960s and school finance reform of the last three decades, a major portion of 20th century school finance research and policy development has been focused on equity concerns and the influence of reform on equity. In the absence of full state funding, state aid cannot by itself create complete expenditure equality. Operating expenditure per pupil supplemented in varying degrees by local wealth and revenue can create "disparities in per pupil revenue between more-and less-affluent jurisdictions" (Verstegen & Salmon, 1989, p. 205). Although demographic and social variables have been noted as powerful expenditure predictors, specific local characteristics of variables within these categories which account for the remaining variation in local expenditure need further specification. The purpose of this study was to determine specific demographic and social predictor variables for district operating expenditure per pupil in Illinois. Seven expenditure functions were designed to predict operating expenditure per pupil by geographic area and district type in Illinois to determine significant predictors by geographic region and district type.

The state, as the primary governmental level responsible for education in the United States, has the momentous task of providing a uniform and equitable education for students within its boundaries. Current fiscal restraints however, have created additional pressure and "nearly every state legislature exhibits a badly balkanized political process. This often results in an inability to reach long-term solutions to certain key fiscal issues" (Wood. 1990, p. 59–60). Additional pressure is therefore placed on local revenues to provide resources for education. Local variation in both tax rate and tax base (assessed valuation) has created wide disparities in the expenditure per pupil, exaggerating the problems of equity in the schools.

Numerous expenditure determination studies have been conducted in an attempt to predict per pupil expenditure variation. In a doctoral dissertation, Reimer (1971) outlined significant contributions to expenditure research from 1959–1967. Brazer (cited in Reimer, 1971) accounted for 40% of the variation in per pupil expenditure with median family income, average daily attendance and the amount of state aid received as the best predictors. Property valuation, an index of quality, percentage of secondary students and school district size accounted for 85% of the variation in local expenditure in a study conducted by Hirsh (cited in Reimer, 1971). Additional significant prediction variables for per pupil expenditures cited by Reimer included property valuation, personal income, percent of the labor force unemployed, socioeconomic factors, pupil–teacher ratio, and expenditures for instructional staff.

Jones (1985) further defined expenditure determinants, noting that variations were most often accounted for through local predictors. Governmental, economic, social, demographic and political administrative variables were found to account for significant variation.

"The single most significant item within a local school budget are the salaries paid to professional educators" (Webb, McCarthy, Thomas, 1988, p. 306). Personnel expenditures constitute 82%–85% of a typical local budget, and can therefore account for wide expenditure disparities. Other local program characteristics which affect not only the type of education provided but the diversity in costs as well included class size, transportation needs and costs, maintenance and operations costs, supplies, materials, and equipment (Webb, etal., 1988).

In regard to geographic area or community type, DeYoung (1987) emphasized the predominance of urban/suburban influence on policy decision, curricular needs and research activities. The mass movement to suburbia, the distinct municipal overburden problems of the urban central city and the unique concerns of the rural community create special concerns related to school financing systems and equity.

This study addresses equity in the State of Illinois by determining prediction models for operating expenditure per pupil by geographic area and district type. It was hypothesized that variations would exist and that teacher/administrator salaries would be significant expenditure determinants in all models. Further, it was hypothesized that school size, pupil teacher ratio, pupil administrator ratio, percent attendance and percent low-income would constitute a set of variables which would significantly predict operating expenditure per pupil, in some combination, by district area and type in Illinois.

Method

Subjects: Unit and high school districts who submitted data to the State of Illinois on the Better Schools Accountability data form for the 1985–86 academic year were utilized in this study. These districts provided a data base which consisted of 690 total observations; 164 high school districts and 526 unit districts. All 690 school districts reported information for variables analyzed in the study.

Procedure: Seven stepwise multiple regression analyses at $\propto$=.05 were completed. The independent variables tested in these analyses were district average teacher salary (DAVTSAL), district average administrator salary (DAVASAL), percent low-income (PSLOIN), percent attendance rate (PSATTR), district pupil teacher ratio (DPTR), district pupil administrator ratio (DPADMR), and school enrollment (SENR). The dependent

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DOI: 10.4148/0146-9282.1497

variable for each analysis was district operating expenditure per pupil (DOEPP).

School districts were categorized as rural, suburban, or urban. The designation rural for community type was assigned to school districts in Illinois inside or outside of a Standard Metropolitan Statistical Area (SMSA) with 50% or more of its residents classified as "rural" by the Federal Census. Suburban designation was assigned to districts inside a SMSA with more than 50% of its residents classified "suburban" by the Federal Census which did not serve a central city in a SMSA. School Districts classified as urban were those that serve a central city (cities) inside a SMSA and those districts outside of a SMSA with more than 50% of its residents classified as "urban" by the Federal Census.

School districts were also categorized by the three types used in Illinois. High school districts (grades 9–12) and unit districts (K–12) were used in this study. Elementary districts (K–8) were excluded from the study.

Results

To test the research hypotheses, seven stepwise multiple regression analyses were conducted. Only those which accounted for more than sixty percent of the variance are reported here. The stepwise multiple regression procedures for the State of Illinois, which included high school and unit school districts for all three geographic areas, sixty-eight percent of the variance in district operating expenditure per pupil (DOEPP) was accounted for by six variables, R^2 = .67698, F (6, 683) = 238.57, p = .000. The significant variables were

Table 1
Stepwise Multiple Regression Results High School and Unit Districts in Rural, Suburban, Urban Areas State of Illinois

Dependent Variable—DOEPP

Multiple R:	.82279
R Square:	.67698
Adjusted R Square:	.67414

Analysis of Variance	df	Sum of Squares	Mean Square	F	Obs. Sig.
Regression	6	475976593.87	79329432.31	238.57*	0.00
Residual	683	227109572.59	332517.68		

	B	Beta	t	Obs.Sig.
CONSTANT	4307.49000		5.778*	.0000
DAVTSAL	.12907	.74179	13.630*	.0000
DPADMR	–5.04545	–.33277	–13.211*	.0000
DPTR	–97.7534	–.39779	–12.767*	.0000
SENR	.1484	.11694	2.947*	.0033
PSATTR	22.2400	–.07370	–2.924*	.0036
DAVASAL	.0159	.10049	2.370*	.0181

*p<.05
VARIABLES NOT IN EQUATION: PSLOIN

DAVTSAL, b = .1291, t = 13.63; DPADMR, b = –5.045. t = –13.21; DPTR, b = –97.753, t = –12.77; SENR, b = .1484, t = 2.95; PSATTR, b = –22.240, t =–2.92; and DAVASAL, b = .0159, t = 2.37.

For the stepwise multiple regression procedures for high school districts in suburban areas, seventy-two percent of the variance in district operating expenditure per pupil (DOEPP) was accounted for by four variables, R^2 = .7199, F (4, 97) = 62.36, p =.000. The significant variables were DAVTSAL, b = .146, t =12.57; DPTR, b = –166.32, t = –6.09; DPADMR, b = –3 39, t = –5.33; and PSATTR, b = –72.39, t = –2.57.

For the stepwise multiple regression procedures for unit districts in urban areas, eighty-nine percent of the variation in district operating expenditure per pupil (DOEPP) was accounted for by six variables, R^2 = .888, F (6, 154) = 202.53, p = .000. The significant variables were DAVTSAL, b = .116, t = 13.66; DPADMR, b = –2.61, t = –6.11; PSLOIN, b = 5.89, t = 3.82; DPTR, b = –41.23, t = –5.19; SENR, b = .097, t = 2.88; and PSATTR, b = –15.63, t = –2.46.

Stepwise multiple regression procedures which accounted for less than sixty percent of the variance in district operating procedures are not fully reported here. Included are high school districts in rural areas, unit districts in rural areas, unit districts in suburban areas, and high school districts in urban areas.

The descriptive data for the eight variables studied in the analyses determined that high school districts have higher average operating expenditures per pupil (DOEPP, H.S./Suburban $\bar{X}$ = 4844, H.S./Rural $\bar{X}$ = 4422, H.S./Urban $\bar{X}$ = 3852) than the state average (DOEPP = 3433). Unit district operating expenditure per pupil was below the state average (DOEPP, Unit/Urban $\bar{X}$ = 3378, Unit/Suburban $\bar{X}$ = 3016, Unit/Rural $\bar{X}$ = 2906).

Discussion

The results of this study support the hypothesis that variations would exist among expenditure functions to predict operating expenditure per pupil by geographic area and district type in the State of Illinois. Variable sets created to predict district operating expenditure per pupil contained distinctive combinations of the variables entered.

In support of Reimer (1971) and Webb's (1988) research, average teacher salary was a significant predictor variable for operating expenditure per pupil in all models. Related to this finding, district pupil teacher ratio was also a significant predictor variable. While some of the variables were excluded from individual models as insignificant, none of the variables were excluded from all of the models. This finding supports the hy-

Table 2
Stepwise Multiple Regression Results High School Suburban Areas State of Illinois

Dependent Variable—DOEPP

Multiple R:	.84852
R Square:	.71999
Adjusted R Square:	.70845

Analysis of Variance	df	Sum of Squares	Mean Square	F	Obs. Sig.
Regression	4	65021001.92	16255250.48	62.36*	0.00
Residual	97	25286801.42	260688.67		

	B	Beta	t	Obs.Sig.
CONSTANT	10438.81		3.979*	.0001
DAVTSAL	.14640	.6897	12.571*	.0000
DPTR	−166.324	−.3282	−6.097	.0000
DPADMR	−3.395	−.2902	−5.333*	.0000
PSATTR	−72.390	−.1414	−2.572*	.0116

*p<.05

VARIABLES NOT IN EQUATION: DAVASAL, SENR, PSLOIN

Table 3
Stepwise Multiple Regression Results Unit Districts in Urban Areas State of Illinois

Dependent Variable—DOEPP

Multiple R:	.94208
R Square:	.88752
Adjusted R Square:	.88314

Analysis of Variance	df	Sum of Squares	Mean Square	F	Obs. Sig.
Regression	6	70733823.99	11788970.66	202.525*	0.00
Residual	154	8964318.09	58209.86		

	B	Beta	t	Obs.Sig.
CONSTANT	2879.089		4.234*	.0000
DAVTSAL	.11567	.6933	13.655*	.0000
DPADMR	−2.6086	−.1692	−6.109*	.0000
PSLOIN	5.8984	.1695	3.817*	.0002
DPTR	−41.2298	−.1663	−5.189*	.0000
SENR	.0972	.1109	2.875*	.0046
PSATTR	−15.6301	−.1130	−2.462*	.0149

*p<.05

VARIABLES NOT IN EQUATION: DAVASAL

pothesis that the original variable set would constitute a set of variables which would significantly predict operating expenditure per pupil, in some combination, by district area and type. Further investigation into additional demographic and social variables which would significantly predict operating expenditure per pupil in Illinois and increase the amount of variance accounted for would be an appropriate outgrowth of this study.

The numerous studies that have determined the significant impact of wealth variables (assessed property valuation and personal income) as expenditure determinants would suggest that the addition of wealth and income variables would increase the prediction power of these equations. Further refinement of these analyses which included wealth and income data in the variable set would be a second appropriate outgrowth of this study. If the use of a prediction model is to be a practical tool, however, a systemic data collecting device for income and wealth data at the district level would be required. Inclusion of this information on the "School Report Card" in future collections in Illinois is recommended.

Further, the results of this study support DeYoung 's (1987) premise that variation existed in economic need by geographic area. The addition of a cost-of-education index for the State of Illinois which would factor in the variation in expenses across the state would result in a clearer understanding of the heterogeneity in operating expenditure in Illinois school districts.

Continued development of the expenditure functions for predicting operating expenditure per pupil in Illinois school districts would provide local school personnel with a needed tool for more accurate and precise long range financial planning. Given the bleak outlook forecasted for the financial future for Illinois public schools in the coming decades, methods which would assist local school administrators in dealing with the financial dilemmas ahead could come none too soon.

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

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The data suggest that principals desire greater involvement and decentralization of the budget process.

A Comparison of Principals' Perceptions of Desired and Actual Participation in the Building Level Budget Decision Process

Barbara Y. LaCost and Marilyn L. Grady

School-based management, a contemporary concept in educational policy development, has varied descriptions in the literature (for discussions, see David, 1989; English, 1989; Guthrie, 1986, Marburger, 1985; White, 1989). A general assumption about site-based management is that management decisions are brought closer to the people impacted by the decisions. Budgeting, a critical element of school-based management, is the allocation of resources to achieve institutional and organizational goals (Odden & Picus, 1991, 300). Although principals' decision-making responsibilities for the allocation of resources tend to vary among districts and among buildings within a district, recent shifts to school-based management may precipitate a more expansive decision-making role for principals in the school budgeting process (Cox, 1989). The current emphasis both in the field and in preparation programs on site-based management may provide opportunities for principals to become more proficient in the budget process.

Limited empirical research concerning the relationship between principals' roles and budgeting procedures at the site level exists. In a recent Illinois study, Small (1991) investigated urban and suburban principals' levels of involvement in selected budget process areas—staff salary decisions, materials purchasing, and physical site improvement decisions. Correlation coefficients indicated significant relationships between actual and desired participation levels in all areas. Specifically, the results indicated that principals desired to be more heavily involved in decisions concerning textbooks, educational supplies, office supplies, instructional equipment, library books and equipment, and improvement to the facility. These principals were less interested in taking greater responsibility for salary decisions and custodial supplies (Small, 1991, 24). The budget areas described in Small's study served as the basis for this survey of K–12 principals in rural and urban settings in a mid-Plains state. The study described in this article, however, differs from Small's study in that we surveyed a more diverse principal population and tested for significant differences between principals' actual and desired levels of budget process involvement.

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Background

School-based management is one approach to decentralizing the decision-making process to those involved at the school level—specifically principals, teachers, and parents (White, 1989, 6). The traditional rationale is that persons in schools have different needs that can best be met at the building level, not the district level (Cox, 1989, 21). Seen alternately as empowerment, as an effective business practice, or as a method for improving student achievement, school-based management has several elements (AFT Center for Restructuring, 1988, cited in Cox, 1989). Cawelti (1989), in studying several districts that have experimented with forms of school-based management, ranks site-based budgeting as 1 of 7 elements associated with bringing decision and control closer to those most affected.

Purpose

The purpose for conducting this study was to compare principals' actual and desired involvement in the budget process at the building site. The study was guided by the following research question:

To what extent do principals' perceptions differ concerning their actual decision-making involvement and their desired decision-making involvement in three areas of budget processing: salaries, purchasing, and physical site?

Four hypotheses were developed:

1. Principals desire a greater level of involvement in salary decisions for certified staff than they actually have; therefore, a significant difference exists between principals' actual and desired participation in salary decisions for certified staff.
2. Principals desire more involvement in salary decisions for non-certified staff than they already have; therefore, a significant difference exists between principals' actual and desired participation in salary decisions for non-certified staff.
3. Principals desire a greater level of involvement in school-site purchasing decisions than they actually have; therefore, a significant difference exists between principals' actual and desired participation in school-site purchasing decisions.
4. Principals desire a greater level of involvement in physical-site improvement decisions than they actually have; therefore, a significant difference exists between principals' actual and desired participation in physical-site improvement decisions.

Procedures

Sample

The state education agency's school directory provided the listing from which the study sample was selected. Each school in districts that maintain both elementary and sec-

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

ondary schools was coded. A random number table was used to select the sample of 50 principals from schools located in 278 public kindergarten through grade 12 school districts in a mid-Plains state.

Survey Return Rate

One mailing and one follow-up were conducted. Thirty-two principals (return rate of 64%) responded to the initial survey. A follow-up letter produced an additional 10 responses resulting in an overall response rate of 42 (84%).

Instrument

The questionnaire required 13 responses (see Appendix A). Three budget process decision areas were defined and a set of responses was required for each area: (1)the salaries area required 4 responses, (2)the materials purchasing area required 7 responses, and (3)the physical site area required 2 responses. Principals were asked to respond to two questions:

1. To what extent do you actually participate in the budgeting process decisions for the areas listed?
2. To what extent do you desire to participate in the budgeting process decisions for the areas listed?

The choices represented a range of responses from full decision-making responsibility to no decision-making responsibility. The responses and scale follow:

1. Presently make the decision
2. Recommend a decision
3. Suggest possible alternative decisions
4. Provide or gather information for the decision
5. Do not participate

Methodology

The Wilcoxon matched pairs signed-rank test was conducted on each of the 13 questions. The test determined whether a significant statistical difference existed between principals' desired and actual levels of involvement in decision-making in three areas of the budget process. The Wilcoxon test was selected because the measures were taken on the same sample and no assumptions could be made about homogeneity of variance between the two sets of responses. The test statistic was based on the rank of the absolute differences between paired observations and was then subjected to a normal approximation procedure resulting in a negative Z statistic (Kirk, 1984). For this study, $p \leq .05$ was considered significant.

Results

The demographic profile of the respondents is displayed in Table1.

The ration of female (n=9) to male n=33) respondents was approximately 1:3.7. Over half of the respondents 55%, n=23) were over 47 years of age. Fifty-five percent (n=23) had over nine years experience as a principal and over 81% (n=34) had been in education for over 15 years. Nineteen respondents (46%) drew salaries of less than $40,000, whereas 22 respondents (54%) earned over $40,000 per year. Slightly over half of the respondents (n=22, 52%) administered schools serving over 300 students. Although 41 of the 42 respondents represented schools with enrollments of 101 students and over, one respondent was the principal of a school with an enrollment of only 12 students.

The descriptive and inferential statistics are displayed in Table 2. Means and standard deviations for both the actual level of involvement and the desired level of involvement are reported. The Wilcoxon signed-ranks test ranks data ordinally and tests for differences between sets of responses on the same subjects. The results are reported as negative Z scores with accompanying p values for each test of difference in columns 3 and 4 of Table 2.

Table 1
Demographic profile of survey respondents (N=42).

VARIABLE	NUMBER AND PERCENT*	
Gender		
Female	9	21%
Male	33	79%
Age		
≤ 35	4	10%
36 to 46	15	36%
≥ 47	23	55%
Principal Experience		
≤ 9 years	19	45%
≥ 10 years	23	55%
Education Experience		
≤ 15 years	8	19%
≥ 16 years	34	81%
**Salary		
≤ $39,999	19	46%
≥ $40,000	22	54%
School Enrollment		
≤ 150	7	17%
151 to 300	13	31%
301 to over 500	22	52%

* Totals may not equal 100 due to rounding.
**One respondent provided no information, n=41 this case.

Hypothesis 1: A significant difference exists between principals' actual and desired participation in salary decisions for certified staff.

The data in Part 1 of Table 2 indicate that a significant difference existed between desired and actual participation in all salary areas. Principals were asked to indicate the extent to which they actually participated in and desired to participate in decisions (1)about funds for new or replacement teachers and (2)about raises for teachers. Principals indicated that they wanted to participate more in the decisions about funds for new or replacement teachers (a decrease in the mean from 4.122 to 3.268) and in the decisions related to raises for teachers (a decrease in the mean from 4.561 to 3.268). The results were significantly different at a p value=.0003 and .0011, respectively.

The least deviation from the mean was found for actual involvement in decisions about raises for teachers (s.d.=0.923) and the most deviation was for desired involvement in areas related to funds for new or replacement teachers (s.d.=1.467).

Hypothesis 2. A significant difference exists between principals' actual and desired participation in salary decisions for non-certified staff.

Principals also were asked to rank their involvement and their desire to be involved in the budget processing decisions about raises for office personnel and custodians. Principals indicated that they desired greater participation in the budgeting process related to raises for both office personnel and custodians—more for the former (mean shifts from 4.195 to 2.732) than for the latter (mean shifts from 4.537 to 3.05). Whereas the difference in actual and desired means for each of the questions was judged significant ($p \leq .0000$), the greatest difference in preference was found to be between actual and desired participation in raises for office personnel. Principals' responses deviated least from the mean for actual involvement in decisions about raises for custodians (s.d.=0.951) and deviated most from the mean for desired involvement in raises for custodians (s.d.=1.413).

Hypothesis 3. A significant difference exists between principals' actual and desired participation in school-site purchasing decisions.

Displayed in Part 2 of Table 2 are the test results for seven questions related to purchasing materials at the building site. Principals reported significant differences in their actual and desired levels of participation in the decisions about 6 of 7 purchasing areas. The difference between actual and desired participation in textbook purchasing decisions was significant at p=.0580—slightly more than the minimum p value established.

Principals indicated that they participate less in purchasing decisions about office supplies (mean=4.050) and library books (mean=3.024) than other purchasing areas. The responses also suggested that principals differ more in their perceptions for actual and desired participation in library book purchases than for other purchasing areas (substantiated by the z score of −2.8876, p=.0039).

The least deviation among principals' responses was found for desired involvement in purchasing educational supplies and instructional equipment (s.d.=0.784 and 0.783, respectively). The greatest deviation in response was found for desired involvement in purchasing office supplies (s.d.=1.485).

Table 2
Descriptive and inferential statistics for principals' desired and actual perceptions of involvement using the Wilcoxon Signed Ranks Test (N=42).

Variable	Mean	s.d.	Z statistic	p
PART 1—SALARY				
Money for new teachers	Actual 4.122 Desired 3.268	1.208 1.467	−3.6214	.0003*
Raises—Teachers	Actual 4.561 Desired 3.683	0.923 1.386	−3.2658	.0011*
Raises—Office Personnel	Actual 4.195 Desired 2.732	1.209 1.342	−4.4206	.0000*
Raises—Custodians	Actual 4.537 Desired 3.050	0.951 1.413	−4.2857	.0000*
PART 2—PURCHASING				
Textbooks	Actual 2.390 Desired 1.974	1.243 1.038	−1.8955	.0580
Educational Supplies	Actual 2.000 Desired 1.525	1.183 0.784	−2.1405	.0323*
Instructional Equipment	Actual 2.098 Desired 1.550	1.158 0.783	−2.4111	.0159*
Library Books	Actual 3.024 Desired 2.325	1.458 1.228	−2.8876	.0039*
Library Supplies	Actual 2.659 Desired 2.175	1.425 1.174	−2.3062	.0211*
Office Supplies	Actual 2.024 Desired 1.675	1.214 1.047	−2.0304	.0423*
Custodial Supplies	Actual 4.050 Desired 3.487	1.395 1.485	−2.4483	.0144*
PART 3—PHYSICAL SITE				
Internal	Actual 2.923 Desired 2.128	0.929 0.833	−3.4557	.0005*
External	Actual 3.026 Desired 2.256	0.959 0.785	−3.3869	.0007*

* p<.05

Hypothesis 4. A significant difference exists between principals' actual and desired participation in physical-site improvement decisions.

Principals were asked to indicate the actual and desired extent of participation in budget process decisions about internal and external facility improvements. Displayed in Part 3 of Table 2 are the results associated with the two questions on the survey. Principals indicated a preference for greater participation in the budget process for internal facility improvements (mean=2.128 versus mean=2.923). They also expressed preference for greater involvement in external facility improvements (mean=2.256 versus mean=3.026). Both differences in mean values were significant (p=.0005 and .0007, respectively).

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DOI: 10.4148/0146-9282.1497

The deviations of principals' responses from the means were fairly consistent for questions related to actual and desired participation in physical site improvement. All responses were less than 1 standard deviation from their respective means although there was greater variance for actual involvement (s.d.=0.929 and 0.959) than for desired involvement (s.d.=0.833 and 0.785).

Summary and Discussion

The purpose for conducting the present study was to determine the extent of differences between principals' actual and desired involvement in the decision-making process of the building-level budget. Four research hypotheses about principals' actual and desired participation levels in budget process decisions related to building staff salaries, materials purchased for use at the building site, and physical site improvements were postulated. Data were collected from a randomly selected sample of public elementary and secondary principals in a mid-Plains state. Interpretation of the data indicated that, overall, principals did not perceive that they participated as fully as they might in decisions related to the budget process areas surveyed.

The first and second hypotheses stated that principals desired a greater role in determining salaries of both certified and non-certified staff. In fact, principals saw themselves as needing to be more involved in salary decisions for non-certified staff and especially those salaries related to office personnel. The results differ from those reported by Small (1991). His findings suggested that principals desired greater involvement in other areas of the budget process than staff salaries.

The third hypothesis stated that principals desired greater involvement in material purchases at the building level. While no significant difference was found between actual and desired involvement in purchasing textbooks, principals did see themselves having greater influence over supply and office purchases. Of specific interest was the disparity between actual and desired involvement with the fiscal decisions associated with library books. The final hypothesis stating that there would be differences in actual and desired levels of involvement with budget decisions that affected the physical site was also supported.

Implications

Our data suggest that principals desire greater involvement and decentralization in the budget process. The principal's role is to ". . . coordinate, direct, and support the work of others by . . . providing organizational resources"; furthermore, the tasks must be integrated with leadership skills such as decision-making (Sergiovanni, Burlingame, Coombs, & Thurston, 1987, 57). The authors identified four organizational core activities to which school administrators must attend: (a)maintaining cultural patterns, (b)attaining organizational goals, (c)maintaining and adapting to forces in the external environment, and (d)integrating the school system (59). The latter three activities may warrant shifts in thinking and behavior patterns for players in the educational arena when principals' involvement in the budget process is increased. Each of the three core activities is briefly described below. Implications for districts, professional organizations, and designers of preparation programs follow the descriptions.

Attaining organizational goals

Goal attainment requires that principals define objectives and mobilize resources to attain them (Sergiovanni et al., 1987, 60). Greater control over and input into site-level budget decisions grants principals the power to target resources to specific objectives, build in effective evaluation procedures, assure that resources are available to meet specific objectives, and shift resources as evaluation procedures and building site preferences fluctuate.

Adapting to the external environment

The evolution of site-base management is an external political and social force to which principals must react (Sergiovanni et al., 1987, 61). Adapting to change while maintaining the school's identity, continuity, and balance may become the major challenge to principals. They will of course need to conceptualize the budgeting process more broadly as well as achieve greater technical expertise in managing a budget. In addition the challenge will require them to engage in self-inquiry, learn more about communicating with others and give more attention to linking goals to effective teaching and learning practices.

Internal integration

Maintaining the internal environment requires integration of two components, one structural and one psychological. Principals first must coordinate and unify school units and departments. They must also build and encourage a sense of identity and loyalty among staff and students (Sergiovanni et al., 1987, 62). Greater involvement in the budget process may shift the well-known and familiar parameters of the structural and psychological dimensions of a school. Principals who demonstrate greater sensitivity and communicate meaningfully with participants may cope more effectively as instability and uncertainty evolve into new norms and mores for the school.

If more autonomous decision-making at the building level continues to be touted as a strategy for reconfiguring the management of resources in public schools, thorough assessment of the principal's role in the budget process must be undertaken. The outcomes of the assessment will direct efforts to improve preparation programs. Implications for school districts, professional organizations, and designers of preparation programs follow.

In order to provide for greater principal involvement in site-based budgeting, districts must:

1. develop and articulate rules and regulations affecting the amount or resources allotted and the accompanying procedures;
2. coordinate and adjust rules about class size, tenure, and salary so that implementation of site budgeting in enhanced;
3. develop clear and articulate policies regarding fund excesses that may occur (Cox, 1989); consider allowing the carry over of funds from year to year to promote flexibility and efficiency (Guthrie, 1986).
4. expand the business manager's scope of responsibility to include serving as a liaison to sites;
5. provide adequate and compatible computer hardware and software systems (Cox, 1989);
6. commit to investing in human capital through training programs and periodic evaluation of staff;
7. trust and support the site managers in their efforts.

Professional associations are in the position to advocate and disseminate information about site-management alternatives that may promote a more effective learning environment for students. Supporters in organizations should:

1. stimulate policy-making bodies to examine and restructure rules that prevent effective change at the district and site levels;
2. seek and promote federal and state fiscal support for experimenting with alternative models of administering schools;
3. aid in the dissemination of knowledge from the researchers to the practitioners;
4. increase the scope and frequency of feedback from members.

Designers of administration preparation programs should:

1. assess the current status of experimental administrative models;
2. implement different site-base administration models and conduct multilevel evaluations including results from school boards, superintendents, principals, teachers, students, parents, and community members;
3. develop and implement experiential preparation experiences, including case studies, involvement with practitioners, periodic clinical observations, and practice;
4. expand knowledge and skills related to delegation of responsibilities (Thomas, 1989);
5. place greater emphasis on the role of the assistant or vice-principal (see, for example, Marshall, 1991);
6. expand budgeting curriculum to include greater variation in type and length of budget development;
7. emphasize more collaborative models in superintendent preparation strands;
8. provide for evaluation strategies that are linked to practical applications of knowledge.

Finally, the research implications of this report suggest the continued assessment of principals' willingness to take on broader budget-related responsibilities. Assessments should vary by state, demographic differences, and purpose. For instance, the consistency with which this study's sample indicated a desire for greater involvement prompts questions about why principals seek more involvement, what is the scope of responsibility perceived, and what district and preparation support features are envisioned. Further recommended research efforts include: (a)appraisals of superintendents' perceptions of the scope of responsibility to be assumed by principals; (b)the implementation and evaluation of coordinated preparation efforts between university preparation programs and school sites; and (c)development and assessment of methods for upgrading communication efforts among site and district managers, professional association representatives, and programs evaluators.

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Appendix A

No. _____

The purpose of this study is to identify **principals'** actual levels of participation and desired levels of participation in the building level budgeting process. Please take a few minutes of your time to complete and return the questionnaire in the enclosed envelope.

The following is a two-fold task. Use the proposed scale to respond to the statements in both instances.

On the left side of the response sheet, rate your **level of participation** by circling the appropriate response to each statement.

On the right side of the response sheet, rate your **opinion of your desired amount of involvement** in the task. Again, circle the appropriate response according to the scale provided.

Scale

1. Presently make the decision
2. Recommend a decision
3. Suggest possible alternative decisions
4. Provide or gather information for the decision
5. Do not participate

TO WHAT EXTENT DO YOU **PARTICIPATE** IN THE BUDGETING PROCESS FOR THE AREAS LISTED?						TO WHAT EXTENT DO YOU DESIRE TO **PARTICIPATE** IN THE BUDGETING PROCESS FOR THE AREAS LISTED?				
					Salaries:					
1	2	3	4	5	Funds for new or replacement teachers	1	2	3	4	5
1	2	3	4	5	Raises for teachers	1	2	3	4	5
1	2	3	4	5	Raises for office personnel	1	2	3	4	5
1	2	3	4	5	Raises for custodians	1	2	3	4	5
					Materials Purchasing:					
1	2	3	4	5	Textbooks	1	2	3	4	5
1	2	3	4	5	Educational supplies	1	2	3	4	5
1	2	3	4	5	Instructional equipment	1	2	3	4	5
1	2	3	4	5	Library books	1	2	3	4	5
1	2	3	4	5	Library equipment	1	2	3	4	5
1	2	3	4	5	Office supplies	1	2	3	4	5
1	2	3	4	5	Custodial supplies	1	2	3	4	5
					Physical Site:					
1	2	3	4	5	Facility improvement—internal	1	2	3	4	5
1	2	3	4	5	Facility improvement—external	1	2	3	4	5

Comments:

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DOI: 10.4148/0146-9282.1497

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With the courts being presented with a new round of challenges to state public educational finance systems it is important, especially in view of continued poor state fiscal conditions, that researchers are able to more accurately identify the extent to which past and contemplated new school finance reform efforts affect educational resource distributional equity.

A Methodology to Determine the Sensitivity of Horizontal Equity Measures to Detect Changes in Distributional Equity

Sidney Castle

An awareness that a quality public education system was important to society, and concerns that marked differences in tax resources at the local district level adversely affected public education programs, culminated in the early 1970s in a series of legal challenges to state educational finance systems. The action of California's Supreme Court in overturning that state's public school funding plan became the ground breaking case (*Serrano v. Priest*, 1971) that led to litigation challenging educational finance systems in over half of the states.

Attempts by school finance theorists since the early 1920s to address inequities based on wealth have had as a common intent the provision of state funding in an inverse relationship to local district wealth so that relatively poorer districts would be compensated for their lack of resources (Jordan & McKeown,1980). The difficulty in attempting to codify school finance theory into state legislation and articulated educational resources allocation systems became apparent as courts questioned the extent to which state school finance systems addressed the issue of whether local school districts had equal ability in terms of revenue, to provide students with equal opportunities for learning (Webb, McCarthy, & Thomas, (1990).

The distributional equity definition of Friedman & Wiseman (1978), Bezeau's (1979) definition of utilizing Dalton's principles of transfers and Sen's Pigou–Dalton condition, and Bern & Stiefel's (1979) classification of equity concerns into two broad groupings with four conceptual groupings of horizontal equity measures, afford a descriptive base upon which school finance researchers have attempted to build statistical models to measure the degree of equity in state educational resource systems. Yet, as Garms (1978) has noted, there is no commonly agreed upon methodology for testing the extent to which school finance reforms have been effective.

A review of the literature shows that researchers increasingly tend to use multi-measure statistical models as opposed to the use of a single statistical measure when attempting to measure equity in state educational resource systems. Since Berne & Stiefel (1984) found that the measure used made a difference when assessing horizontal equity over time in the states of Michigan and New York, increased use of multi-measure statistical models affords a broader perspective from which to assess the effect over time of school reform.

The statistical models employed have enabled researchers to note the impact of school finance reform attempts in terms of general trends in distributional equity. Researchers like Jones & Salmon (1985) found that Virginia's school finance formula implemented in 1974–75 resulted in increased disparities in per-pupil revenues; other researchers like Cohn (1984) reported that in South Carolina school finance reform resulted in considerable improvements in equity. Berne & Stiefel (1983) reported finding evidence on the national level that horizontal equity improved from 1940 to 1960 and declined in the period between 1960 and 1977, while Odden (1986) in a summary of school finance reforms reported significant progress in the 1970s for increased equity issues in spite of the states' generally poor fiscal condition.

With the courts being presented with a new round of challenges to state public educational finance systems it is important, especially in view of continued poor state fiscal conditions, that researchers are able to more accurately identify the extent to which past and contemplated new school finance reform efforts affect educational resource distributional equity. This requires an understanding of how sensitive the most frequently used statistical measures are in detecting the amount of change that occurs over time in distributional equity of state educational resource systems. A difficulty arises from the fact that the most frequently used statistical measures tend to be non-parametric and differ significantly in the range of their computed values.

Study Methodology

Differences in the distributional equity of an educational resource system may occur between year-1 (Y_1) and beyond (Y_3) as the result of reform efforts. Computed values for two measures (A and B) used to assess the amount of equity on educational resource distributions for Y_1 and Y_3 may vary both in terms of their computed values ($A_{Yi} \neq B_{Y1}$ and $A_{Y3} \neq B_{Y3}$), and in terms of the amount of change of their computed values between Y_1 and Y_3 ($A_{Y3-1} \neq B_{Y3-1}$) Correlational analysis of the amount of change in computed values for statistical measures used to determine distributional equity and the amount of actual change noted in distributional equity between Y_1 and Y_3 provides a means of assessing the sensitivity of various measures to changes in distributional equity.

Key to assessment of the sensitivity of various measures is the identification of a methodology which can be used to determine the actual amount of distributional inequity. Lorenz

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https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

(1905) contended that plotted sets of figures for cumulative percentages of resources–units and individuals in a population in which wealth is distributed equally will always give a straight line. In a distribution with inequity the curve will always begin and end in the same points as with an equal distribution, but will be bent in the middle. The extent of the bend, and therefore the area circumscribed by the curve, is said by Lorenz to be an indication of the extent of the equity in the distribution.

Berne & Stiefel (1984) applied the Lorenz curve to the study of horizontal equity and noted that when Lorenz's rule relative to X_1 and Y_1 values is observed, and every pupil receives the same object, then the Lorenz curve will be a 45° line running from the lower left to the upper right corners of the graph. Their definition of distributional characteristics resulting in a 45° for a plotted Lorenz curve is identical to their definition of horizontal equity also advanced by Jordan & McKeown (1980). Berne & Stiefel (1984)further noted that as long as there is some inequity in the distribution, the Lorenz curve will lie below the 45° line, and the greater the inequity the farther below the 45° line the Lorenz curve will lie.

Since the Lorenz curve is a plotted graph (Lorenz, 1905; Lows, 1984; Berne & Stiefel, 1984) which corresponds to the definition of horizontal equity, then the area of the curve can be mathematically described and computed in terms of a graph of *f* from a to b. The area circumscribed by the plotted sets of figures for an educational resource allocation distribution can be accurately measured by use of Simpson's Rule from calculus (Swokowski, 1984) and used as a benchmark by which to assess the sensitivity of horizontal equity measures to changes in distributional equity.

A database of fifty-four state-by-year distributions reported by three year intervals was used to assess the sensitivity of frequently used horizontal equity measures. The state-by-year distributions were derived from multiple year student and expenditure data sets received from state education agencies based on a stratified sample. The first strata represented states which had undergone court mandated restructure of their public educational resource allocation systems. It was presumed that multiple year data obtained from these states would reflect a reduction in distributional inequity. The second strata represented states which independent of court mandates had restructured their educational resources allocation systems and have been annually certified as being wealth-neutral by the Division of Impact Aid, U.S Department of Education. Because of the annual wealth-neutrality certification process it was assumed that multiple year data from states in the second strata represented little, or no, shifts in distributional equity.

The third strata represented states that reported an increasingly heavy reliance (i.e.≥ 85% of total funding) on local resources for public education funding. Multiple year data from states in the third strata were presumed to reflect high distributional inequity. All expenditures-per-pupil data were converted to constant dollars by the use of Consumer Price Index figures provided by the U.S. Bureau of the Census (1986) since Berne & Stiefel (1984) noted that some computed horizontal equity measures values changed as the result of inflation.

Three Simpson's Rule values were calculated with the Lorenz curve data sets for each of the state-by-year distributions of per-pupil expenditures. The three calculated Simpson's Rule values were next calculated between the three-year interval data sets from each state. Some of the state provided multiple three-year data sets which allowed additional comparisons to be made, (i.e. Y_3 vs. Y_1, Y_6 vs. Y_3, Y_6 vs. Y_1, etc.) so that a total of forty-three sets of comparison were obtained. Each of the horizontal equity measures examined in the study were calculated for the state-by-year distributions, and then amount of change values were calculated using the same multiple year data set format as used with Simpson's Rule values. Pearson r correlation coefficients were calculated using the forty-five comparison sets of Simpson's Rule and horizontal equity measure amount of change values. A computed Pearson r value of ≥ ± .50 was defined as constituting a meaningful correlation between Simpson's rule and horizontal equity measure relative amount of change values.

A total of twelve horizontal equity measures were examined in the study. All of the measures, except for Atkinson's index and the HGini coefficient, were described by Berne and Stiefel (1979) in their four conceptual groupings of horizontal equity measures. As Berne & Stiefel (1984) have noted, the Atkinson's Index is capable of focusing on different distribution. Changes in the assigned values for parameter E in the Atkinson's Index formula determine which part of the distribution will be emphasized (Atkinson, 1970). Parameter E values are set greater than zero and increases in the E value are said to correspond to a heavier emphasis on the lower part of the distribution. Table 1 identifies the twelve horizontal equity measures examined on the study and the seven different values for the E parameter of Atkinson's Index.

Table 1
Horizontal equity measures examined in the study

Name of Measure
Atkinson's Index (E = 0.5, 2, 8, 20, 40, 75, and 125)
Coefficient of Variation
Federal Range Ratio
Gini Coefficient
HGini coefficient (Hickrod formulation of Gini Coefficient)
McLoone Index
Range
Relative Mean Deviation
Restricted Range
Standard Deviation of Logarithms
Theil's measure
Variance

Study Results

A total of eighteen computed horizontal equity values (twelve different measures with seven different Atkinson's Index parameter E values) were compared to the three Simpson's Rule values using forty-three sets of amount of change data. Measures such as the Gini and HGini Coefficients were expected to correlate highly with the Simpson's Rule values since they are measures specifically formulated to approximate the area of the Lorenz curve. The McLoone Index is a measure that considers expenditure-per-pupil data for all students below the distribution median and was compared only to Simpson's Rule values for the lower-half of the Lorenz curve. Table 2 identifies those instances where computed Pearson r values met the established study criterion for meaningful correlation.

This study narrowly focused on the sensitivity of selected horizontal equity measures to detect changes in distributional equity over time. With respect to that narrow focus, the results indicated that:

(1) The Gini and HGini coefficients, formulated to approximate the area of the Lorenz curve, were found to be very sensitive to changes in distributional equity. The HGini coefficient displayed a marginally greater formulation with changes in the three areas of the distribution (total, upper-half and lower-half) than did the Gini coefficient. This may be explained by the formulation of the two measures. The Gini coefficient formula examines the relationship between all data sets in the distribution while the HGini coefficient formula focuses on the relationship of contiguous data sets in distribution. In instances of bimodal or multi-modal distribution configurations the Gini coefficient may tend to be more affected by distributional variance than the HGini coefficient.

Table 2. Calculated Pearson r Values

Horizontal Equity Measure	Area of Lorenz Curve		
	Total	Upper	Lower
Atkinson's Index (E=.5)	-0.861	-0.892	-0.745
Atkinson's Index (E=2)	-0.927	-0.917	-0.873
Atkinson's Index (E=8)	-0.518	*	-0.555
Atkinson's Index (E=20)	*	*	*
Atkinson's Index (E=40)	*	*	*
Atkinson's Index (E=75)	*	*	*
Atkinson's Index (E=125)	*	*	*
Coefficient of Variation	0.545	0.580	*
Federal Range Ratio	0.727	0.712	0.696
Gini Coefficient	0.962	0.938	0.924
HGini Coefficient	0.972	0.943	0.941
McLoone Index	N/A	N/A	*
Range	*	*	*
Relative Mean Deviation	*	*	*
Restricted Range	0.507	0.555	*
Theil's measure	*	*	*
Std. Dev. of Logarithms	0.767	0.773	0.696
Variance	*	*	*

Note: * appears where Pearson r value < ± .500.

(2) Atkinson's Index was found to be sensitive to changes in distributional equity with low values of the parameter E (E= 0.5 to 8). This sensitivity was found to occur within a smaller range of E values than expected. The Atkinson's Index did display a slight shift in focus from the upper-half of the distribution (E= 0.5) to the total area of the distribution (E=8), however, the range of E values selected for this study were too narrow to allow a meaningful assessment of the relationship between E values and the sensitivity of the measure to detect changes in equity across different parts of the distribution.

(3) The Federal Range Ratio and Standard Deviation of Logarithms were found to be more sensitive to changes in distributional equity than either the Coefficient of Variation or the Restricted Range.

All four measures tend to be sensitive to all of the data points within a distribution but the Federal Range Ratio and Standard Deviation of Logarithms mitigate the impact of extreme outlier data points. The Federal Range Ratio and Standard Deviation of Logarithms are less sensitive to changes in distributional equity than are the Gini coefficient, the HGini coefficient or Atkinson's Index with E values of 0.5 to 8.

4) Measures such as the McLoone Index, Range, Relative Mean Deviation, Theil's measure, and the Variance did not meet the study criterion of Pearson r value of + .50. These measures either focus upon the deviation of single set of data from some central measure, or are descriptors of the variability in a distribution and are sensitive to extreme outlier data points.

Summary

A methodology was presented for assessing the sensitivity of horizontal equity measures to detect changes in distributional equity over time. The importance of being able to more accurately assess changes in distributional equity, and therefore the affect of school finance reform efforts, was discussed recognizing that the courts are again being presented with challenges to state school finance systems. A stratified sample of multiple state-by-year educational resource allocation distributions was used to assess the sensitivity of selected horizontal equity measures. The argument was raised for use of Simpson's Rule calculations of the three areas of Lorenz curve as a benchmark by which the selected horizontal equity measures were assessed. Simpson's Rule and horizontal equity measure values were first calculated using the state-by-year distributions. The amount of change in computed values between two state-by-year distributions were noted and forty-three sets of comparisons were obtained. Pearson r correlation coefficients were calculated using the comparison data sets. A study criterion of a computed Pearson r value of > + .50 was defined as acceptance of a horizontal equity measure's ability to detect changes in distributional equity over time. Measures which did meet the study criterion were identified and review was made of the formulation structure of the various measures selected for inclusion in the study.

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https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

Based on these results, little progress has been made in advancing the aspirations of women and removing barriers to women's advancement in administrative roles.

Women and Educational Administration: Certified, But Not Employed

Marilyn L. Grady

The question addressed in this study emerged from contrasting recent research. Some studies indicate that the number of women in graduate programs in educational administration approaches or exceeds the number of male graduate students in such programs (Grimes & Sloan, 1984; Levandowski, 1977; Mertz & Venditti, 1985). However, other data reveal that a corresponding number of women do not hold administrative positions (AASA, 1986). A survey of Los Angeles credentials-holders showed that far more women than men hold the credentials without holding an administrative position (Marshall, 1985).

Historical Perspective

The small representation of women in the ranks of public school administrators has not always been the case. The nationwide decline has been greatest in the elementary schools, where, in 1928, women held over half (55%) of all principal positions. Even in secondary schools, women constituted at least twice the percentage of principals at that level in 1928 as they did in 1973 (Women in Educational Administration, 1928; NEA, 1973). Women held superintendencies in major cities, too, such as Chicago. These statistics suggest that women in the past, held high aspirations for administrative positions.

Following World War II the balance changed, as many men returned from the armed services and sought employment in school settings. Women steadily lost administrative ground in public schools. In the 1940s, throughout the United States approximately 41% of elementary principals were women; in the 1950s, 38%; in the 1960s, 22%. By 1980 the figure dropped to less than 20% (Paddock 1980, p. 20).

Estler (cited in Bilken & Brannigan, 1980) posited models to analyze the persisting underrepresentation of women administrators in schools. These three models were: (1) the women's place model, (2) the discrimination model, and (3) the meritocracy model.

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Estler's Three Explanatory Models

The women's place model acknowledged different socialization patterns for young boys and girls that were institutionally reinforced. These patterns continued in adult life. The women's place model was based on the assumption that the absence of women in leadership positions was due to the different socialization patterns of men and women. As they grew up, women were taught to be the family caretakers and nurturers and that a woman's place was at home. Society did not admire the pursuit of a career requiring planning and many long hours of hard work that took women away from their families.

The discrimination model suggested that preferential hiring and promotional practices explained the sexist imbalance in educational administration. This model was supported by an examination of the number of years it took women to achieve the rank of principal or superintendent (Lyman and Speizer 1980, p. 27). This number was determined by the number of years in constant service in education. Estler's analysis showed that almost the same number of female and male teachers held the credentials to become administrators. However, the median number of years in teaching before appointment to the elementary principalship was 5 years for males and 15 years for females (Estler 1975, pp. 363–85).

The meritocracy model, however, assumed that people were promoted according to their ability. Therefore, it implied that men were more competent than women because men were chosen for administrative positions so often.

Neil Gross and Anne Trask in *The Sex Factor and the Management of Schools* (1976), examined the relationship of gender and competence of elementary school principals. The authors' extensive analysis of data, collected from 91 female and 98 male principals, as well as 1,202 teachers in 41 cities in the United States during the 1960s, indicated that the professional performance of teachers and the amount of student learning was higher, on the average, at schools with female principals. As Estler discovered, there really was very little data to support the belief in the higher general competence of men.

When linked together, Estler's concepts provided an argument that demonstrated the existence of sex roles and occupational stereotypes. Considerable evidence supported the argument that sex role stereotypes and sex role socialization reduced the probabilities that women will actively seek leadership positions and that organizations will be responsive to those who do (Adkinson 1981, p. 31) (Dopp & Sloan 1986, pp. 120–121).

Barriers to Success

Timpano (1976) maintained that sex discrimination was practiced through "filtering methods" that filter out qualified women. "Recruiting filters" included limiting the announcement of a job opening to "Within the district" when the district had few, if any, women certified as administrators. "Application filters" included downgrading an applicant for a top administrative position by suggesting that she apply for a lesser administrative or teaching position. "Selection criteria filters" included applying dual selection criteria by allowing men to skip one or more rungs on the career ladder but requiring women to climb each step. Included in "interview filters" were questions such as, "Aren't you concerned about returning home alone late in the evenings from meetings?" Lastly, "selection decision filters" included rejecting a woman because she was aggressive, but hiring a man because he was. Research and statistics indicate that sexual discrimination, whether overt or covert, does exist in hiring practices in educational administration (Lang 1983, p. 88).

Few internal barriers to women achieving administrative positions are noted in an AASA study (1982, p. 30). The internal barrier mentioned most often in this study was lack of geo-

graphical mobility. Because nearby opportunities were often limited, the lack of geographical mobility strongly affected the women. Personal factors such as marital status, number of children, and ages of children did not significantly affect upward career mobility (AASA 1982, p. 43). In 1986, Dopp reported similar findings.

Adkinson (1985, pp. 327–347) also reported a study of barriers to advancement. Women were equally likely to express ambition at any age until age fifty, but men under the age of thirty were slightly overrepresented. The majority of the women in the study were married but this did not affect their aspirations. Women in the aspiration group were more likely to be single or divorced than the male aspirants. The majority of the men and women were from that state but more than half (of both sexes) were willing to relocate for an administrative position.

Aspirations

Howe (1973) noted that women teachers set their aspirations modestly low. Few women aspired to become administrators. According to Howe's research bright young men entered primary or secondary education with that goal in mind. They spent their beginning years in the classroom, knowing their goal was curriculum design or school administration. Women did not follow similar paths.

Johnson, Yeakey, and Moore (1980) noted that the inferior status of women in school systems also reflected the acceptance by women of the inferior status, and gave legitimacy to that status.

> At the very least, the inferior status of women, especially when they are a majority and should have the power of numbers as support, indicates an unwillingness to struggle, an avoidance of conflict, and a reluctance to fight. At worst, it shows us that women teachers believe in their own inferiority and accept the patriarchy as it exists (Johnston, Yeakey, & Moore 1980, p. 120).

Proportionally fewer women than men aspired to administrative posts. Florence Howe (1973) made a connection between the lower percentage of women administrators and the generally low aspirations of women. She identified aspiration as "the crucial issue in women's education." Matina Horner described the dilemma as women's "motive to avoid success" (Recruitment Leadership and Training Institute 1974, p. 14).

Purpose

The purpose for conducting this study was to identify selected reasons why women with administrative certification do not hold administrative positions. Seven specific research questions were addressed:

1. Have women who are certified applied for administrative positions?
2. Have women who are certified been interviewed for administrative positions?
3. What reasons did women provide for not using their administrative certification?
4. Based on family responsibilities, are there significant differences between women who seek administrative positions and women who do not?
5. Based on encouragement received, are there significant differences between women who seek administrative positions and women who do not?
6. Based on age, are there significant differences between women who seek administrative positions and women who do not?
7. Based on academic degree, are there significant differences between women who seek administrative positions and women who do not?

Procedures

To obtain the information needed to answer the research questions, women who held administrative certification but who were not practicing administrators were surveyed. The subjects of this study included 250 individuals who were randomly selected from a population of 1172 females with administrative certification from the states of North Dakota, South Dakota, Kansas, Nebraska, and Iowa. The study population was identified through a review of records provided by the departments of education in each of these states during 1988.

The survey instrument was developed by the author. Using a representative review of literature (Dopp & Sloan, 1986; Fishel & Pottker, 1974; Frasher, Frasher & Hardwick, 1982; Grady, M. L. & Bohling–Philippi, V., 1987; Lange, 1983; Levandowski, 1977; Lovelady–Dawson, 1980; Marshall, 1986; Mertz, Grossnickle & Tutcher, 1980; Paddock, 1980; and Weber, Feldman & Poling, 1981), a list of 11 reasons that women do not apply for administrative positions was developed and included in the survey. The proposed instrument was reviewed by six professors of educational administration. A revised instrument, incorporating the reviewers' comments and suggestions, was pilot tested with 23 subjects. After some additional adjustments were made, the final survey instrument was prepared.

After two mailings, 196 of the 250 subjects responded, for a return rate of 78%. Telephone calls were made to ten randomly selected nonrespondents to assess nonresponse bias; none was found.

Results

Of the 196 respondents, 127 (65%) had not applied for any administrative position during the last five years. The 69 (35%) women who had applied for administrative positions sent a total of 96 applications. These applications included: 43 for elementary principalships, 19 for assistant principalships, 17 for coordinator positions, 5 for secondary principalships, 3 for superintendencies, 3 for special education directors, and 3 for directors of student services.

Of the 69 respondents who applied for administrative positions within the last five years, 45 (65%) were interviewed. Of these individuals, 22 were interviewed 1 time, 9 were interviewed 2 times, 9 were interviewed 3 times, 3 were interviewed 4 times, 1 was interviewed 5 times, and 1 was interviewed 6 times.

The 127 subjects who did not apply were asked to identify reasons for not applying for administrative positions from the list. The list of reasons and the number and percentage of women citing each reason are presented in Table 1.

Table 1
Reasons Women With Administrative Certificates Do Not Apply for Administrative Positions N=127

Reason	Number	%
Like Current Position	87	68
Not Interested in Being An Administrator	41	32
Family Responsibilities	39	31
No Vacancies in Area	37	29
No Incentive to Change Positions	32	25
Unable to Move	28	22
Don't Want Added Responsibility	24	19
Not Ready to be an Administrator	18	14
Too Old to be an Administrator	16	13
No Reason	7	6
Too Young to be an Administrator	4	3

The most frequently cited reason for not applying was liking one's current position (68%). Other reasons cited were: not interested in being administrator (32%), family responsibilities (31%), no vacancies in the area (29%), no incentives to change positions (25%), unable to move (22%), don't want added responsibility (19%), not ready to be an administrator (14%), too old to be an administrator (13%), no reason (6%), and too young to be an administrator (3%).

All 196 subjects were asked a separate question regarding their willingness to move to accept an administrative position. Only 25% of the respondents indicated a willingness to move. To some extent, this expression of intent validates the reason given for not applying for administrative positions.

The subjects were asked whether they had been encouraged to become educational administrators. Thirty-seven percent indicated that they had received such encouragement. As a follow-up question, subjects were asked to indicate how they had been encouraged. The primary form of encouragement was verbal. In 21% of the cases, women were told of an administrative vacancy by a practicing administrator. Others were encouraged by invitations to apply for an administrative position (19%), encouragement to take graduate courses in educational administration (18%). and being told of an administrative opening by a university professor (6%).

Chi squares were used to ascertain whether there were significant differences in regard to selected characteristics between the group of women who sought administrative positions and the group that did not. No significant differences were found ($p.<.05$) based on family responsibilities (e. g. husband's job, children in school) or age (23–30, 31–38, 39–46, 47–54, 55–62, and 63–67+).

A significant difference in the groups was found ($x^2=5.75892$, df 1, $p.<.05$) based on encouragement. A significant difference in the groups was also found ($x^2=17.21301$, df=2, $p.<.05$) based on academic degree (Masters, Specialist Certificate, or Doctorate).

Implications

Based on the findings of this study, a major impediment to women's successful pursuit of administrative careers appears to be their unwillingness to apply for administrative positions. Additionally, the reasons cited for not applying suggest that, in general, the women in this study prefer their current positions and are not interested in administrative work. Family responsibilities, such as a husband's job or children, may not be the major barriers to women seeking administrative careers as is often suggested. Encouraging women to apply for administrative positions and to continue their graduate studies, as well as persuading women that administrative careers are worthwhile, may be areas that individuals and organizations attempting to increase the number of women in administrative positions should emphasize.

Of the three models outlined by Estler (1975), the women's place model and the discrimination model together provide the best frame work for understanding why women remain in teaching while men move into administration. Although women may be well-qualified, some have psychologically accepted a secondary role in their profession because they are concerned about their family or because they lack confidence (Lange 1983, p. 89). Few women have been socialized to have a clear sense of a career track or to develop their leadership skills. They have also been denied the support, opportunity, and experience given to men (Lyman & Speizer 1980, pp. 29).

Research by Horner (1974) analyzed the tendency of women to lower their expectations of themselves and their esteem. Rather than assume or even apply for non-traditional positions, women elect to avoid success by setting their occupational aspirations modestly low rather than be subjected to social antagonism. The findings of this study confirm the fact that there remains a psychological barrier, a subconscious occupational ceiling, that prevents women from actively pursuing success in the non-traditional roles of school administrators. Thus, proportionately fewer women than men seek administrative positions, tending to disguise their ability and eliminate them from competition in a larger occupational sphere (Johnston, Yeakey, & Moore 1980, p. 127).

Howe (1973) suggested that the reason so few women aspire to become administrators reflected not only the inferior status of women in school systems but also the acceptance by women of both that status and the legitimacy of that status. Moreover, it signifies that women teachers believe in their own inferiority and accept the patriarchal system that exists (Johnston, Yeakey, & Moore 1980, p. 127).

Evidence of interest in administrative posts cannot be based solely on the numbers who apply. A *Maine Times* (1974) discussion of the difficulties of women seeking principals' jobs comments, "One young woman complained that women don't even apply for top jobs because they feel it's a foregone conclusion they won't get them." This response to prior discrimination is a recognized phenomenon (the "chilling effect") among minorities seeking employment. The social conditioning of women may also prevent them from making an aggressive attempt to enter places where they perceive themselves not to be wanted (Recruitment Leadership and Training Institute 1974, p. 16)

The findings of this study are compatible with earlier findings in similar studies. Based on these results, little progress has been made in advancing the aspirations of women and removing barriers to women's advancement in administrative roles. Estler's models continue to be useful in explaining the underrepresentation of women in administrative roles.

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Doctoral studies in educational administration reflect considerable variation across the nation. Whether this is healthy or counterproductive is the subject of some debate.

Doctoral Studies of Students in Educational Administration Programs in Non-Member UCEA Institutions

M. Scott Norton

In 1987, a national study of doctoral programs of UCEA-member institutions in Educational Administration was completed by the UCEA Program Center for Preparation Programs. The outcomes of this 1987 research generated interest in a similar study of non-member UCEA institutions. Thus, such a study was initiated in 1989 that included 42 institutions located in 27 different states and two Canadian provinces. Universities represented in the study were:

Boston College
Bowling Green University
Brigham Young University
East Tennessee State University
Florida Atlantic University
Iowa State University
Kent State University
Marquette University
Marshall University
Memphis State University
Miami University
Michigan State University
Mississippi State University
North Carolina State University
Portland State University
Purdue University
Southern Illinois University–Carbondale
Tennessee State University
Texas Tech University
University of Alabama
University of Arizona
University of Calgary
University of California–Berkeley
University of Georgia
University of Hawaii–Manoa
University of Idaho
University of Illinois—Urbana–Champaign
University of Maine
University of Missouri–Kansas City
University of North Dakota
University of North Texas
University of Pennsylvania
University of San Diego
University of Saskatchewan
University of South Carolina
University of South Florida
University of Vermont
University of Wyoming
Virginia Tech
Western Michigan University
West Virginia University

As was the case in the previous 1987 study, the student's official program of study was selected as the primary data document since it seemed to provide the most reliable indication of the actual courses, practical and research activities of students in preparation programs in educational administration. Since the students' program of study for the doctorate in most all instances reflects course work completed for the Master's Degree and administrative certification, the Ed.D. and Ph. D. degree programs were selected for study. The use of these two degree programs was necessary since some institutions offer only the Ed.D. or Ph. D. degree. In addition, the study of both doctoral degrees provided some opportunity to compare degree differences.

Each participating institution was asked to select randomly two programs of study that had been approved within the last three years for each doctoral degree offered. A total of 110 programs of study was utilized; 62 Ed.D. programs of study and 48 Ph. D. programs of study. Courses were categorized into the following major areas: (1) courses completed in Educational Administration, (2) courses completed in Research and Statistics, (3) Foundations (Psychology, Philosophy, Guidance, Human Resources Development, Curriculum, Special Education, History of Education and other courses in the area of general education), (4) Cognate courses completed (courses in Liberal Arts, Fine Arts, Business Administration, Religion and Computer Applications), (5) Seminars/Workshops/Independent Study courses, (6) Field Experiences, and (7) Dissertation credits.

As was the case in the 1987 study, a concern was the limitation of not knowing the actual content of specific courses as well as the nature of the program practical in all cases. However, the problems relative to the analysis of course content were determined as not absolutely essential to the study's purpose. The value of knowing the extent of exposure of students to various major area of study (i.e., Theory, Policy, Research, etc.) was judged as highly beneficial even though the specific course content might vary among institutions.

The Study Results

Each of the 100 programs of study was analyzed and each course or experience recorded under one of the seven categories previously presented.

Courses in Educational Administration

All offerings in the area of Educational Administration were recorded under one of 18 separate course categories. The course area, Organization & Administration, included spe-

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cific course offerings concerning how schools and school systems are organized and how they are administered. However, the administration of the Elementary School, Secondary School Administration, and Introduction to Educational Administration were other categories utilized for recording fundamental courses in the principles of school administration. Courses such as Organizational Theory, Theory, Theory and Application, and the Theory of Educational Administration were recorded under the course area of Theory.

Table 1
Courses in Educational Administration

Courses	No. in Ph.D.	% of Ed. Adm. Coursework (nearest whole %)	No. in Ed.D.	% of Ed. Adm. Coursework (nearest whole %)
Organization & Administration	26	6	42	7
Elementary Administration	10	2	13	2
Secondary Administration	12	3	13	2
Higher Education Administration	21	5	38	6
Introduction to Administration	28	6	26	4
Personnel Administration	34	8	59	10
School Law	46	10	52	9
Education Finance	41	9	46	8
Human/Community Relations & Societal Factors	26	6	38	6
Management	25	6	32	5
Theory	32	7	40	7
School Principalship	13	3	18	3
Educational Policy	43	10	39	6
Supervision	24	5	39	6
Facility Planning	16	4	29	5
Politics of Education	19	4	24	4
Educational Leadership	21	5	45	7
School Superintendency	13	3	11	2

Table 1 reveals the 18 course areas for Educational Administration for the Ph. D. and Ed.D. degree programs. Data do not include Educational Administration Seminars/Workshops/Independent Study, Field Experiences, Research courses in Educational Administration or credits for the Dissertation.

Of the 450 courses in Educational Administration taken by Ph. D. students, School Law, Educational Policy, Educational Finance, Personnel Administration, and Theory were most common. The five most common courses on programs of Ed.D. students were Personnel Administration, School Law, Educational Finance, Educational Leadership and Organization & Administration. In analyzing the data, it must be kept in mind that the course work in educational administration represented 35% of the coursework for the Ph. D. degree.

As indicated by the data in Table 1, School Law and Educational Policy constituted 20% of the course work for Ph. D. degree students in Educational Administration. School Law, Educational Policy, Educational Finance, Personnel Administration and Theory represented approximately one-third of the course work in Educational Administration for Ph.D. students. Another one-third of the Ph.D. student's program of studies in educational Administration consisted of courses in Introduction to Educational Administration, Human/Community Relations and Societal Factors, Organization & Administration, Management, and Supervision.

Courses less common to Ph. D. programs were Educational Leadership, Higher Education Administration, Politics of Education, Facility Planning, the School Superintendency and the School Principalship. Work in the School Principalship appears to be unduly low. It should be noted that Elementary Administration and Secondary Administration were also utilized as categories in the study. If indeed these two categories focused primarily on the work of the school principal, courses in the "Principalship" would have increased by 5%.

Those Educational Administration course areas receiving the least amount of attention in Ph. D. programs included the School Superintendency, Facility Planning, Politics of Education, Higher Education Administration, and Educational Leadership. Elementary and Secondary Administration also were uncommon courses when considered separate from the School Principalship.

Students pursuing the Ed.D. degree program were taking over 40% of their Educational Administration course work in School Personnel Administration, School Law, Educational Finance, Educational Leadership and Organization & Administration. For example, of the 640 courses in Educational Administration on Ed.D. programs, School Personnel Administration was the most common with 59 entries. However, it is significant to note that 16 of the Ed.D. degree programs examined did not include a course in School Personnel. Similarly, while School Law was entered 52 times on 48 programs of study, 14 of the Ed.D. students' programs had no such course.

Courses in Theory, Supervision, Educational Policy, Human and Community Relations and Societal Factors, and Higher Educational Administration constituted approximately one-third of the Ed.D. students' programs in Educational Administration. Less common to Ed.D. programs were courses in Management, Facility Planning, Politics of Education, Secondary School Administration, Elementary School Admin-

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

istration, and the School Superintendency. As previously mentioned, Elementary and Secondary School Administration were considered separately from the School Principalship. However, even if these two categories would have been included within the Principalship category, these three course areas would have constituted only 7% of the total entries on Ed.D. programs.

Research and Statistics

The area of Research and Statistics included courses in Tests and Measurements, Elementary Statistics, Intermediate Statistics, Advanced Statistics, Introduction to Research, Quantitative Research, Advanced Research Methods, Qualitative Research and Use of Computers in Research. Courses in Research Methods and Statistics represented 17.6% and 16.3% of the total course work for the Ph. D. and Ed.D. programs of study respectively. The various courses in Research and Statistics were recorded within nine areas as shown in Table 2.

Table 2 Research and Statistics Courses

Courses	Number of Courses Ph.D.	Number of Courses Ed.D.
Statistics	**N=48 Programs of Study**	**N=62 Programs of Study**
Tests and Measurement	26	30
Elementary Statistics	31	36
Intermediate Statistics	19	17
Advanced Statistics	9	11
Total	85	94
Research Methods		
Introduction to Research	39	45
Quantitative Research Methods	15	27
Advanced Research Methods	20	29
Qualitative Research Methods	8	12
Computers in Research	9	8
Total	91	121

Courses in Tests and Measurements, Elementary Statistics, and Introduction to Research were most prominent for Ph.D. students as was the case for Ed.D. students. Advanced Research Methods was the fourth most common course for both Ph. D. and Ed.D. students while Intermediate Statistics ranked fifth for Ph.D. students and Qualitative Research Methods ranked fifth in Ed.D. programs.

For Ed.D. degree programs, work in Statistics constituted 7.1% of the total course work while it represented 8.5% of the total course work for Ph. D. students. However, Research Methods for Ph. D. and Ed.D. students were nearly equal with 9.1% of the Ph. D. Students' course work and 9.2% of the Ed.D. students' course work in Research Methods. Over all, approximately 17.6% of the course work of Ph. D. students was in the area of Research and Statistics while Research and Statistics constituted 16.3% of the total course work in the Ed.D. program.

Foundations

The area of Foundations encompassed a wide variety of course work in the areas of Educational History, Philosophy, Psychology, Sociology, Guidance and Counseling, Human Development, Special Education and Curriculum Development. Basically, such course work was considered as constituting the general education work of doctoral programs although course work in the cognate areas served as a foundation support area as well.

Course work in the Foundations area constituted approximately 22.2% and 18.2% of the total work for Ph.D. and Ed.D. students respectively. These percentages were second only to the course work taken in Educational Administration. It must be noted once again, however, that the Foundations areas encompassed nearly all course work taken by students outside Educational Administration except Cognate course work and course work in Research and Statistics. In total, 222 of the 998 Ph.D. courses and 241 of the 1,322 Ed.D. courses were recorded as Foundation course work. While courses in the category of Foundations were relatively evenly balanced among eight course areas, course work in Curriculum Development was dominant for both degree programs. Course work in the course areas of Psychology, Special Education, Sociology, Educational History, Guidance and Counseling and Human Development also was somewhat prominent in the Ph. D. degree program while Educational History, Psychology and Sociology led the Foundations work for Ed.D. students.

The absence of course work in the Foundations areas was notable. For example, of the eight course areas in Foundations 50 of the 62 Ed.D. programs of study revealed no course work in Guidance and Counseling. Similarly, 48 of 62 Ed.D. programs of study contained no course work in Human Development, 56 to 62 programs of study had no course work in Special Education, 34 of 62 had no work in Educational History, 43 of 62 had no work in Philosophy, and 26 of 62 programs of study showed no course work in Curriculum Development. Programs for the Ph. D. degree revealed similar results for Foundations. For example, 39 of the 48 Ph. D. programs of study had no course work in Philosophy of Education and 16 of the 48 programs revealed no work in Curriculum Development.

Cognate Course Work

Cognate work included courses in Liberal Arts, Fine Arts, Business Administration, Religion and Computer Applications. Cognate work comprised 7.5% of the Ph. D. and 8.0% of the Ed.D. course work for Educational Administration students. Courses in the above mentioned course areas varied widely and no common patterns of specific course work were identified. For the Ed.D. degree, course work in Business Administration, Computer Applications and Liberal Arts was most common while Ph.D. students took most course work in Liberal Arts, Business Administration and Computer Applications respectively. Course credits in the areas of Fine Arts and Religion were virtually non-existent.

Seminars, Workshops and Independent Study

Seminars, Workshops and Independent Study included courses both inside and outside departments of educational administration. However, records examined did not always make clear the specific nature of the Seminar, Workshop or Independent Study experience or if the work was indeed related specifically to Educational Administration.

For the Ed.D. degree program, professional seminars were somewhat popular. The 62 programs of study for the Ed.D. revealed 108 Seminar course entries. Ph.D. degree programs listed only 43 such entries. While Workshops were relatively uncommon to both degree programs, Independent Study courses were recorded 37 times on Ed.D. programs and 25 times on Ph. D. programs in Educational Administration.

Overall, Seminars, Workshops and Independent Study constituted only 7.5% and 1.2% of the Ph.D. and Ed.D. degree programs respectively.

Field Experiences

Field Experiences included Internships, Field Work and other Practica. Of the 51 entries for Field Experiences for Ph. D. programs, 20 were recorded as Practica, 17 as Internship, and 14 as Field Work. Of the 62 entries for the Ed.D. degree, 23 were Field Work, 19 Internship, and 20 Practica. The lack of entries in the area of Internship posed several questions. Only 16 of 62 Ed.D. programs of study had the Internship as a course entry. Similarly, 50 of the 62 programs had no Field Work entries and 48 of 62 listed no Practica. Recordings for the Ph. D. degree programs revealed limited Field Experience in Educational Administration as well. For example, of the 48 Ph.D. programs of study utilized in the research study, 33 listed no Internships, 38 listed no Field Work and 34 of the 48 programs listed no Practica. An increase of Practica in preparation programs in non-member UCEA institutions, as discussed widely in Educational Administration circles, has not evidenced itself in preparation programs to date.

Table 3
Field Experiences in Educational Administration

Courses	Number of Courses Ph.D.	Number of Courses Ed.D.
Internship	17	19
Field Work	14	23
Practica	20	20

Overall, Field Experience work constituted 5.1% and 4.6% of the total course work of Ph. D. and Ed.D. students respectively. Ironically, Field Experience for Ed.D. degree students represented a lower percent of the total program of study courses than that for students in the Ph. D. program.

Total Program Summary

Table 4 indicates the total percent data for each of the major areas of study for students in the Ph.D. and Ed.D. degree programs. Note that Field Experience and Dissertation entries are included.

Table 4 Total Percent Data for Areas of Doctoral Study

	Ph.D. No. of Courses	% of Total Work	Ed.D. No. of Courses	% of Total Work
Educational Administration Course Work	450	35	604	37
Research and Statistics	176	14	215	13
Cognate Course Work	75	6	106	7
Foundations	222	18	241	15
Seminars, Workshops, Independent Study	75	6	156	10
Field Experiences	51	4	62	4
Dissertation	212*	17	230	14
Total	1261		1614	

* Figure represents number of 3 s.h. of credit.

As indicated by the data in Table 4, only the area of Seminars, Workshops and Independent Study differs more than 3% between the Ph.D. and Ed.D. degree programs. In general, Ph.D. degree programs of study contained slightly higher percentages of work in Research and Statistics (14% vs. 13%), Foundations (18% vs. 15%), and Dissertation Credits (17% vs. 14%). Ed.D. degree programs had slightly higher percentages of course work in Educational Administration (37% vs. 35%), and Seminars/Workshops/Independent Study (10% vs. 6%). Percentages of overall course work in Field Experiences were equal at 4%.

Some caution is necessary in interpreting the work in the area of Dissertation. Such credit is recorded on programs of study in a variety of ways which are not always fully clear. On 15 of the 62 Ed.D. degree programs of study and 8 of the Ph.D. degree programs of study, no credit hours for Dissertation were recorded in any form. This discrepancy was not pursued further in the study, but it is common knowledge in the field that some institutions do not require the Dissertation as a degree requirement. Further, some institutions require the Dissertation but provide no specific credit hours for this research activity. In any case, as previously noted, the Dissertation entries for both degrees represent the number of 3 s.h. credits recorded on the respective programs of study.

As the data in Table 4 reveal, 37% of course work in the Ed.D. degree program focused on specific work in Educational Administration. With the exception of work in Field Experiences and Cognate course work, course area are nearly balanced among the categories of Research and Statistics, Foundations, the Dissertation, and Seminars/Workshops/Independent Study. Field Experiences and Cognate course work received somewhat less emphasis than Foundations, Dissertation, Seminars/Workshop/Independent Study, and Research and Statistics.

Summary

The data gathered from student programs of study in non-member UCEA institutions supported the following conclusions:

1. As was found in the earlier 1987 study of UCEA member institutions, Ph.D. and Ed.D. degree programs in Educational Administration differed only slightly in the types of courses and percentages of offerings in various areas of course offerings. Only one course area differed more than 3% in total offerings between the two degrees.
2. Students pursuing either the Ph.D. or Ed.D. degree program in non-member UCEA programs commonly were expected to complete approximately 36% of their total work in the area of Educational Administration.

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DOI: 10.4148/0146-9282.1497

However, additional work in Educational Administration per sé is completed by students through work in Seminars/Workshops/Independent Study and Field Experiences.

3. Over 41% of the specific course work in Educational Administration most commonly included courses in Personnel Administration, School Law, Educational Finance, Educational Leadership and Organization & Administration for Ed.D. students. Similarly, course work in School Law, Educational Policy, Educational Finance, Personnel Administration and Theory typically constituted 44% of the specific course work for Ph.D. degree students.
4. Research and Statistics requirements for Ph.D. and Ed.D. degree students differed only slightly. Ph.D. degree students proportionately had slightly more work in the area of Statistics. However, course work in Research Methods was identical for both degree programs.
5. Foundations course work for both Ph.D. and Ed.D. degree programs represented the second highest area of course work for students. Overall, 18% and 15% of the total students' programs for the Ph. D. and Ed.D. degrees respectively were in the area of Foundations.
6. Field Experiences for doctoral students constituted a relatively small percent of students' programs. A doctoral student in non-member UCEA institutions could be expected to complete no more than 4% of the total work in this area of study.
7. Cognate course work in fields outside education represented a relatively small percentage of degree work for doctoral students. Cognate course work for Ph. D. students represented only 6% of the total program of studies while it constituted 7% for Ed.D. students.
8. Course work in the areas of Educational Policy, Politics of Education, School Principalship (including Elementary and Secondary Administration), the School Superintendency, Educational Leadership, Supervision and Theory typically constituted only 15% of the students' doctoral program in Educational Administration.

It is unlikely that a completely drug-free environment can be created in schools until solutions are found for the much more serious problems of alcohol and drug abuse in American society as a whole.

Drug Control in Public Schools

Jerry A. Giger and Floyd Delon

Drug abuse, one of the nation's most serious problems, was recognized by Congress with numerous enactments. For example, in 1984 Congress adopted a statute (21 U.S.C. Sec. 845a) that provides enhanced penalties for any person who distributes a controlled substance within 1000 feet of a school building. There is widespread awareness of this most frightening dimension of this problem, its threat to school-age children. Gallup polls of recent years indicated that the general public believes that "the use of drugs" is the most important problem facing schools. In 1989 "drinking/alcoholism" in schools was ranked ninth in importance. A 1989 Gallup poll of teachers resulted in rankings of seventh (use of drugs) and twenty-third (drinking/alcoholism) although 62 percent of the teachers said that drug abuse among students was either very or fairly serious. Almost one-third of the teachers responded that the use of drugs and selling drugs occurred most of the time or fairly often in schools.

Much of the research to date is concerned with assessing the extent of drug usage among school children. This article is based on a more global approach which examines the current status of the policies and procedures used in American public schools to deal with drug and alcohol use by students.

Survey of School Principals

This national survey of middle/junior high school and high school principals, completed last year, provided data for the assessment of the status of policies and procedures. The sample to which questionnaires were mailed consisted of 435 principals, one in each Congressional district. Two hundred fifty-four principals responded for a return rate of 58 percent. The participating school districts enrolled a total of 179,401 students.

Table 1. Does the school have student alcohol and drug policies?

	Middle/Junior High		High School		All	
Respondents Response	Number	Percent	Number	Percent	Number	Percent
Yes	101	95	130	94	231	94
No	5	5	9	6	14	6
TOTAL	106	100	139	100	245	100

The first information sought concerned the existence of written school policies on substance abuse. School officials have recognized the need for such policies as evidenced by data listed in Table 1 showing that over 94 percent of the principals responded affirmatively. Middle/junior high schools were just as likely to have policies as high schools.

The responses to the question as to whether the policy distinguished between drug and alcohol offenses, again tabulated by level in Table 2, showed no difference. In both junior high school and senior high schools over two-thirds of the school policies made no distinction between the offenses. According to the respondents from those school districts having separate policies, the drug abuse policies tend to carry more severe penalties than alcohol policies and to require routine notification of the police.

The questionnaire items that followed examined practice. Each presented a possible drug-related occurrence in schools. The responding principal could either select one or more of the listed responses that described procedures used in his/her school or list other procedures should they differ. Table 3 contains the listing of principals' responses to a situation in which the students voluntarily report that they are using drugs. Because of the similarity of responses, the data from middle/junior high schools and senior high schools were combined. The findings revealed that under such circumstances, school officials are most likely to contact parents and provide assistance to eliminate the student's problem. A smaller percentage of the principals reported that they would notify the

Table 2. Does the policy distinguish between alcohol and drug offenses?

	Middle/Junior High		High School		All	
Respondents Response	Number	Percent	Number	Percent	Number	Percent
Yes	33	31	45	32	78	32
No	73	69	94	68	167	68
TOTAL	106	100	139	100	245	100

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DOI: 10.4148/0146-9282.1497

police and/or suspend or otherwise punish the student. Most of the practices described under "other" were specific counseling or treatment programs, in some instances, required in connection with suspension or alternative placement.

Table 3
What actions are taken when the student volunteers that he/she is under the influence of drugs?

Response	All Respondents Number	Percent
Nothing happens	0	0
Parent notified	186	76
Referred to school counselor	143	58
Referred to community resource	112	46
Law authorities are notified	59	24
Suspended for ____ days	93	38
Suspended until parents come to school	35	14
Suspended until students goes to treatment center	16	7
Expelled from school	10	4
Other	88	36

As seen in Table 4, students suspected of being under the influence of drugs are even more likely to have their parents contacted. The second most frequent response again was referral to the school counselor. Although only 9 percent of the principals indicated that urinalysis or other drug testing would be used, the comments supplied under the "other" category focused on verifying the suspicions. It is somewhat surprising that 29 percent of the administrators would suspend the student even without such verification.

Table 4
What actions are taken when the student is suspected to be under the influence of alcohol or drugs?

Response	All Respondents Number	Percent
Nothing happens	7	3
Parent notified	176	72
Referred to school counselor	117	48
Require urinalysis or other drug test	22	9
Suspended for ____ days	72	29
Suspended until testing is completed	15	6
Other	109	44

When school officials suspect drug possession, searches of some kind typically take place. The principals' responses, compiled in Table 5, indicate that desk and locker searches are most frequently used. With the exception of car searches, the percentages decline as the focus of the search becomes more intrusive. In spite of the legal difficulties that could likely result, as many as 4 percent of the principals expressed a willingness to conduct strip searches of students.

Table 5
What actions are taken when students are suspected to be in possession of illicit drugs at school?

Response	All Respondents Number	Percent
Nothing happens	1	> 1
Student's locker or desk searched	214	87
Student's gym bag, book bag searched	195	80
Student's purse or billfold searched	175	71
Student's car searched	81	33
Student's person searched	155	63
Student strip searched	10	4
Police are called to conduct search	72	29
Other	66	27

One of the more controversial techniques, the use of drug-detection dogs was the subject of the next item (see Table 6). The question asked each principal to indicate the school district's position. Only 10 percent reported that dogs were used routinely and 24 percent stated that dogs would be used only when the problem became extremely serious. Twenty-two percent said that dogs would not be used in the district under any circumstance.

Table 6
What is the position of school officials on the use of drug-detection dogs?

Response	All Respondents Number	Percent
Dogs will not be used under any circumstances	55	22
Dogs will only be used if drug-related problems become serious	58	24
Dogs have been used but are no longer used	19	8
Dogs are currently used routinely	25	10
Other	96	39

Table 7
What actions taken in response to possession of alcohol or drugs?

Response	First Offense Number	Percent	Second Offense Number	Percent
Parent notified	216	88	194	75
Referred to school counselor	121	49	97	40
Referred to community resource	84	34	88	36
Law authorities are notified	134	55	139	57
Suspended for ____ days	169	69	132	54
Suspended until parents come to school	39	16		
Suspended until student goes to treatment center	25	10	36	15
Expelled from school	27	11	83	34

When school officials know that the student is in possession of drugs or alcohol, most of them notify parents. Notification is more likely to occur with the first than with repeat offenses. As one would expect, the principals tend to be more lenient with first offenders. The responses to this item are presented in Table 7.

The school officials' approaches in dealing with student drug sellers are predominantly punitive. In approximately 80 percent of the schools, the administrators notify parents and call the police. Over one half of the offenders face suspension or expulsion from school although some schools begin efforts to rehabilitate the student either by school personnel or referral to some community resource. The responses are shown in Table 8.

Table 8
What actions do school officials use in response to student sale of alcohol or illicit drugs?

Response	All Respondents Number	Percent
Parent notified	196	80
Referred to school counselor	75	31
Referred to community resource	61	25
Law authorities are notified	193	79
Suspended for ____ days	133	54
Suspended until parents come to school	34	14
Suspended until student goes to treatment center	21	9
Expelled from school	110	45
Other	59	24

The final item concerned programs established by the school in response to the drug and alcohol problem. It should be noted that more junior high/middle schools (82 %) had these programs in place than did high schools (71 %). Since the other responses were similar for the two levels, only the combined data were included in Table 9.

Table 9
What programs are used to deal with drug problems?

Response	All Respondents Number	Percent
A K–12 program is in use	186	76
No program is in use	10	4
Only a program for high school abusers is used	8	3
One a high school prevention is used	20	8
Require urinalysis or other test for suspected users	9	4
A community support group is active	104	42
Other	51	21

Concluding Observations

The study provided ample evidence that the "war on drugs" is being waged in the public schools. Most school districts have written drug policies and the courts have been generally supportive of school officials' efforts to deal with this important problem. Practices, such as searches by drug-detection dogs and drug testing about which the law remains unsettled, are not widely used in public schools. The prevailing attitude of school officials appears to be a desire to help rather than punish students with drug problems. However, it is unlikely that a completely drug-free environment can be created in schools until solutions are found for the much more serious problems of alcohol and drug abuse in American society as a whole.

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https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

INTERNATIONAL COMMENTARY ON HIGHER EDUCATION

The Impact Early Retirement Plans Have on University Goals and Objectives

Anne L. Jefferson

Canadian university policies of mandatory retirement have undergone challenges with mixed effects. In four provinces New Brunswick, Manitoba, Alberta, and Quebec—provincial laws have abolished mandatory retirement. In the provinces of Ontario and British Columbia, the University of Toronto, Laurentian University, York University, the University of Guelph, and the University of British Columbia, placed the decision in the authority of the Supreme Court of Canada. The Canadian university community awaited a ruling of the Supreme Court that would resolve or at least give definite direction to the issue of mandatory retirement.

Despite the obvious controversy that the decision of the Supreme Court will cause especially in the noted universities in the provinces of Ontario and British Columbia, faculty members do eventually retire. "(The Association of Universities and Colleges of Canada) estimated that between 25 and 30 per cent of today's professors—as many as 11,655 people—will have to be replaced the next decade as academics hired during the expansion of the 1960's and early 1970's start to retire" (Polanyi, 1989, p. A14).

For the time being, universities see the adoption of early retirement plans (ERP) as the way out of their problem. ERP by definition are designed to facilitate and encourage faculty retirement at an earlier age than they would normally do so. Or, as Chronister and Trainer (1985) reported,

> Early retirement programs are institutional initiatives designed to provide financial and other incentives to facilitate the voluntary retirement of faculty prior to regular or mandatory ages without creating serious financial consequences for the faculty who choose to participate, or for the institution providing the program. (p. 191)

A presumption of such plans is that "the institution's total output (however measured) would increase if at least some older faculty were replaced by newly hired young faculty members. In particular, if these older faculty could be replaced at no net cost to the institution, then both total and average output would be increased" (Weiler, 1981, p. 133). Consequently, "early retirement programs are potentially useful tools to encourage turnover and revitalize faculty ranks, providing flexibility in program staffing and opening opportunities for young academics" (Mitchell, 1981, p. 1).

Despite this potentiality of early retirement, Renner (1988) contends that:

> Current early retirement programs are simply wasteful of money. First, they incur an unnecessary cost by purchasing flexibility that would occur anyway over the critical period, but without helping to correct the fundamental internal structural problem. (p. 17)

Hanson and Merril (1987) found that only "sixteen (of the 36 higher education institutions surveyed) were able to provide an evaluation of the financial savings or extra costs associated with using their early retirement plans" (p. 52).

Against this background, the question "What impact is early retirement having on university goals and objectives?" was asked.

A survey was distributed to 58 Canadian universities. Twenty-seven institutions responded; nine indicated they neither had nor have an early retirement program for faculty; two only recently put in place a plan and therefore considered it premature to respond to the impact of the plan; and two felt that their resources would not permit their participation in the survey. Therefore, the examination of the question is done in the context of the response of the remaining fifteen institutions. These institutions are located throughout the regions of Canada and thus their responses do provide a Canadian perspective of the impact of early retirement plans at the university level.

Characteristics of Responding Institutions

Institutions participating in the study had tenured and tenure-track faculty numbering less than 100 (two institutions), between 100 and 400 (five institutions), between 700 and 900 (three institutions), and more than 1200 (two institutions). Three chose not to provide general information about their institution. Categories of faculty not included in the above count but for whom the institution must plan and provide retirement benefits included: clinical medical faculty, support staff, limited term appointments, administrative and instructional associates with continuing appointments, and tenured professional associates. Within this grouping support staff and clinical medical faculty dominated. Five institutions reported a number of faculty for whom the rules of the institution do not require provision of any retirement benefits. (In one case, although there is this provision, which is based on an age factor, it has not been acted upon.) Faculty affected included visiting faculty, education faculty in O.T. S. F., full-time and part-time or term employees, employees in term positions of less than two years duration.

Eleven of the institutions have a normal retirement age for faculty. This age is primarily set at 65 years though one institution has set it at 60 years and another at 67 years. Over the period from July 1, 1985 to July 1, 1990, the average age of persons retiring was 64 years.

Most institutions experienced small numbers (less than 10) of faculty retiring under the faculty retirement plan between July 1, 1985 and July 1, 1990. Two institutions had 10 to 30 faculty retiring during this time before the normal retirement age; three had 50 to 80 faculty retiring; and one had more than 100 faculty retiring. The number decreased considerably when the focus in either 'at' or 'after' the normal retirement age. Here, six institutions had 10 to 50 faculty retiring at normal retirement age while the remaining institutions had fewer than 10. Only four institutions had more than 10 faculty retiring after the normal retirement age (with the numbers not exceeding 40); eight institutions reported that less than 10 individuals were involved.

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In terms of the percentage of eligible faculty opting for early retirement, the figures are represented as follows:

# of Faculty	# of Institutions
<10%	5
10%–19%	2
20%–29%	2
30%–39%	1
40%–49%	0
50%–59%	1
No Response	4

Profile of Early Retirement Plans

Since 1977 early retirement has been an option exercised at universities. Most universities however opted into early retirement plans during the eighties, with a few only now exploring this option. Many entered early retirement plans with caution through a limiting time period (at times as little as three months) before considering a more entrenched plan.

Table 1 shows the desired objectives for the early retirement plans compared with the short-term (1–2 years) benefits realized and the anticipated long-term (3+ years) benefits. Renewal of professoriate was the leading objective for the introduction of early retirement plans. Yet, it was not considered a dominant short-term benefit. Only two institutions identified it as a benefit that had been realized within the first two years of the plan operation. Even in the long-term, the renewal of faculty was only identified by five institutions as an anticipated benefit.

A strong second objective, staffing flexibility, was perceived as an immediate as well as an anticipated enduring benefit of early retirement. Financial savings, although a strong reason for the implementation of early retirement plans, appears to be primarily a short-term benefit; giving way to faculty renewal and staffing flexibility in the long-term.

Table 1
Objectives vs. Benefits of Early Retirement Plans[1]

Objectives	Benefits	
	1–2 years	3+ years
renewal of professoriate (10)	staffing flexibility (6)	staffing flexibility (7)
create financial savings (7)	financial savings (4)	faculty renewal (5)
provide for reallocation of resources (6)	reallocation of resources (2)	financial savings (3)
		organizational flexibility (2)
staffing flexibility (5)	productivity and renewal (2)	
future hiring difficulties (1)	academic planning (1)	ability to redress employment equity
	(dept. and faculty level)	balance (1)
as an employee benefit (1)	moral of employees (1)	more planned approach to retirement
		by employees (1)
settle problems created by decreasing		promotional opportunities for
efficiency or competence (1)		support staff (1)
		reallocation of resources (1)

[1] Numbers in brackets after the identified objective or benefit indicates the number of institutions that identified that objective or benefit.

Given the above noted differences between objectives and benefits (both realized and anticipated), the respondents were also requested to make a judgment as to how successfully they had achieved the objectives of the early retirement plan. Below are the judgments rendered.

MODERATELY SUCCESSFUL:

- "the number of faculty opting for early retirement is very small. One possible explanation may be that the average pensionable service at age 55 may be low compared to other universities.
- "We expect about ⅓ of those eligible to make use of the plan will do so."
- "employee benefit—many employees appreciated the opportunity to retire early without financial penalties."
- "financial savings—because the plan was available to support an academic staff on an equal basis the financial savings are long term and costs will not likely be recovered for 5 years after the plan closed. After the cost are recovered there will be some savings; however, these savings would have existed at normal retirement if the employees retired at 65."
- "it has offered an honorable way out."
- "It has been modestly effective. The ones who have left were usually more mobile!
- "The plan was only moderately successful since the benefits were viewed by many faculty as not providing sufficient incentive to take early retirement. Some savings were achieved and a few positions were reallocated. The plan was also made available to eligible faculty who resigned to take positions elsewhere. Several faculty who actually retired were excellent scholars who **might** have remained if the plan had not been in place."

MODERATELY TO VERY SUCCESSFUL

- "The special early retirement plan which was introduced in 1988 was quite generous, and yet only about one-fifth of those eligible accepted it. One factor may have been that our pension plan does not have full CPI indexing, and indexing does not begin until one year after normal retirement age."
  "The on-going arrangement (referred to around here as the golden handshake!) seems to attract a steady stream of takers, although not large numbers."
  "The latter arrangement has been particularly successful in getting out of difficult situations, such as burned out faculty, performance which has slipped down to marginal, etc."

VERY SUCCESSFUL:

- "Exactly as successful as projected."

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DOI: 10.4148/0146-9282.1497

- "The program has achieved a higher retirement rate for both academic and support staff members. For academic units in particular, the Early Incentive Program has provided for a mechanism against budgetary cuts, allowed for internal re-allocations and provided staffing flexibility."
- "very successful"

Finally, respondents were requested to suggest what strategy, if any, they would put into effect if more faculty opted for early retirement than budget could support. Five institutions did not perceive this scenario applicable for the following reasons:

- "plan is self-financing"
- "All early retirements paid from pension plan savings at present"
- "numbers controlled; never go for an open-ended plan"
- "That possibility was considered quite remote; no specific plans were made."
- "not possible given plant details"

For institutions that did respond with a strategy, the suggested logistics involved:

- "delay hiring tenure-track replacements for a year or two, as necessary, and use sessionals for essential classes"
- "increase the tax on the payroll and review operating policy"
- "There is a provision in the faculty collective agreement which allows the University to limit the number of early retirements should the number of members choosing early retirement strain the limited financial resources (of the University)."
- "deficit financing was approved by the Universities Grants Commission"

Only in one instance did an institution indicate that it targets specific areas for early retirement considerations. But here, the target was based on a program and enrollment as opposed to specific individual faculty members.

Impact On Goals and Objectives

Respondents were asked to comment on the effect the early retirement plan had on (a) the actual goals and objectives of the university, faculties/schools, and departments, and (b) the achievability of these actual goals and objectives. At least half of the institutions chose not to respond to either (a) or (b) and two indicated that information was not available for (a) and one for (b). One institution claimed that there was no effect on the actual goals and objectives and gave no response regarding achievability. The effect identified by the remaining institutions are given in Tables 2 and 3.

As noted in these tables, many of the effects have to do with faculty positions. It is therefore important to ascertain what practice is followed more specifically. The data revealed that the type of existing faculty positions continued as a result of dollars generated from an institution's early retirement plan were: Female assistant professor tenure-track, Male assistant professor tenure-track, Male assistant professor tenure. The type of new faculty positions established were: Female professor tenure-track, Male professor tenure-track. Generally, these positions are the product of the department/school/faculty being allowed to retain the retiree's line position. No institution indicated that the retiree's position was lost. The criteria used in the decision varies among institutions with this variation noted in the following comments:

- "faculty—generally yes, except rare redistribution exercises on an interfaculty basis"
- "Usually retained. However, the university may reallocate under certain circumstances. Criteria for decision are needs and budget consideration."

Along with the tendency not to take away the retiree's line position from the affected department/school/faculty, no program has been discontinued as a result of faculty opting for early retirement. On this matter, one institution did indicate that such information was not available and another three institutions chose not to respond.

Even though discontinuation of programs was not a consequence of early retirement, respondents were asked to indicate whether any program had undergone major restructuring as a result of faculty opting for early retirement. Only one institution answered yes. The type of restructuring that had taken place was:

- "To a limited extent the College of Engineering has kept a number of its retirement-produced vacancies open for several years to allow for some distribution of faculty positions among departments."

Despite the single yes to the above, six institutions indicated that they require departments/schools/faculties experiencing the loss of faculty due to early retirement to reassess their needs and demands. Two indicated that no such reassessment on this matter as "5 year plans are prepared constantly, therefore, retire and hire must fit into the plan."

Conclusion

Early retirement, for the most part, does not have a neutral effect on the operation of the university. It has in the short term proven to be a positive solution to the steady-state reality of universities. Not only were flexibility dollars generated but flexibility in staffing was enhanced. What was not capitalized on to perhaps its greatest potential was the movement of resources to better meet the goals and objectives of the operational units of the organization. However, in order to comment to a greater degree on this matter it would be necessary to survey actual faculties and departments.

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Table 2
Effects on the Actual Goals and Objectives of the Institutions

	Actual Goals and Objectives
university	* allowed implementation of development plans * "In each case the early retirements have provided flexibility, ability to reallocate resources, infuse new blood, adjust mix of specializations." * relatively little * "Allows faculty renewal at a faster rate." * maintained excellence * younger age profile * faculty more closely align to institutional goals now * scholarly activity increased * more energetic faculty
faculties/schools	* allowed implementation of development plans * "has helped some Deans deal with priority requests for faculty positions" * "allows faculty renewal at a faster rate" * help in rejuvenating faculty * faculties not switched from one department to another; department retains line
departments	* allowed implementation of development plans * "has made rejuvenation possible" * "allows faculty renewal at a faster rate."

Table 3
Effects on the Achievability of the Actual Goals and Objectives of the Institutions

	Achievability of Actual Goals and Objectives
university	* as anticipated * "The goals of the university and its faculties and departments are not enunciated in detail, but rather in broad and general terms. We feel that the early retirement plans have been supportive of those goals." * relatively little * "The plan will enable us to achieve our objectives of faculty renewal." * "planning and restructuring is a high priority now because there are several administrators who have retired early" * maintained excellence * "It provided funds that allowed for a continuation of the current number of faculty positions and thus avoided the necessity of reducing study access."
faculties/schools	* as anticipated * "has helped some Deans deal with priority requests for faculty positions: * "The plan will enable us to achieve our objectives of faculty renewal." * "financial strain over the short term 1–5 years" * "increased planning required"
departments	* as anticipated * "has made rejuvenation possible" * "The plan will enable us to achieve our objectives of faculty renewal." * "faculty renewal is being achieved" * "Retained in faculty" * "Retained as a line position. (This is the case for all departures.)" * "The position is examined by the University's Position Allocation Committee which makes the decision as to whether the position is retained by the department." * "The faculty must obtain approval from the President to retain the position and to present a plan to recover the costs of the early retirement incentives." * "goes back to senate planning committee for review" * "The decision is made by the Dean of the College affected by the early retirement." * "Vacant positions remain with the Faculty Dean who may choose to move them from one department to another."

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

INTERNATIONAL COMMENTARY ON HIGHER EDUCATION

Higher Education of Minority Nationalities in China

Hong Xiang Wang

China is a unified multinational country, with more than fifty minority nationalities. The major nationality is Han. The minority nationalities include Mongol groups in Inner Mongolia, the Tibetans in Tibet, and peoples of various ethnic groups in Xinjang. The areas where these minority groups are gathered are called autonomous regions. These nationalities cover more than half of the total area of China. According to the Vital Statistics of 1990, the population of the minority nationalities is 91,200,314, or roughly 8.0% of the total population of China. The people of the minority nationalities are an important force in the construction of China's four modernizations: modern agriculture, modern industry, modern defense and technology.

This paper discusses the historical development, progress, and problems of higher education of the minority nationalities in China for the past 40 years.

I. Historical Development

Before 1949, in some of the regions of the minority nationalities, cultural development was in a primitive state. Numerical records, for example, were kept by tying knots and cutting notches in wood. Higher education, as can be understood, was out of the question. There were only colleges and universities for the minority nationalities in one or two regions, and only very few students from the minority nationalities could attend institutions of higher education. After the founding of the People's Republic of China, higher education of the minority nationalities has roughly undergone four stages in its development.

The First Stage: (from 1949 to 1956)

During this period, China witnessed growth in the economic field, and made primary progress in the higher education of the minority nationalities. On November 24, 1950, the sixtieth session of government affairs of the Government Administration Council ratified the Trial Plan of the Training of Administrative Personnel of Minority Nationalities. It was the first, yet, a most important plan that new China promulgated for the development of education of the minority nationalities. It indicated that the Central People's Government, and the proper provinces should, according to the educational principles of new democracy, foster a larger number of cadres of minority nationalities. These cadres were to meet the demands of the construction of the country, to ensure the regional autonomy of minority nationality, and implement the policies of minority nationalities. The Trial Plan resolved to establish the Central College For Nationalities in Beijing, and its branches in the Northwest, Southwest and Central South of China. In June 1951, the Central College For Nationalities was formally established in Beijing. The Trial Plan required that the province governments increase the higher education levels of minority nationalities.

In September 1951 and in June 1956, the Ministry of Education held the First and Second National Conferences of Education of Minority Nationalities. The two conferences presented efforts on the education of the minority nationalities and deliberated on the program of national education, including the higher education of the minority nationalities. Education of the minority nationalities was discussed and new policies were adopted at the two conferences.

The Second Stage: (from 1957–1966)

The higher education of the national minorities during this decade experienced a great leap forward. The Ministry of Education and the Commission of Minority Nationalities Affairs stressed strengthening of the institutes of nationalities; hence, educational quality was greatly improved. By the end of 1959, there were, in various institutes of nationalities, 21 individual undergraduate courses. Moreover, there were preparatory courses for cadres. There were 14,109 students in cadres at study. There was a teaching and administrative staff of 3,552, among of which 1,407 were teachers. In short, higher education of the minority nationalities developed rapidly in this decade. By the end of 1965, there were ten colleges and universities for nationalities located in other provinces and another twenty common colleges and universities had been set up in the regions of national autonomy. In these two types of colleges, there were 21,870 students of the minority nationalities, 17 times as many as in 1950; there were 3,311 teachers of the minority nationalities, 5.3 times as many as in 1950. But, we should point out, that, owing to the proneness to boasting and exaggeration during the period of 59–62, we took a roundabout course in the higher education of the minority nationalities, which created some bad effects. Otherwise, the higher education of minority nationalities would have developed more rapidly.

The Third Stage: (from 1966–1976)

This was also the decade of the Great Proletarian Cultural Revolution. During this period, the guiding principle of "taking class struggle as the key link" was emphasized throughout the country. It was believed that "the more knowledgeable, the more reactionary." Intellectuals were persecuted. All of these caused a severe destruction to the cultural and educational undertakings of China. The higher education of minority nationalities, of course, was not exempt. It was during this period that the original ten colleges for nationalities were reduced to only two: the Central College for Nationalities and Guang Xi College for Nationalities. The remaining eight either were disbanded or merged into other institutes. The number of teachers of minority nationalities was cut down from 3,331 in 1965 to about 2,600, a reduction of some 21%.

The Fourth Stage (from 1976–now)

In 1976, the Cultural Revolution was over, and in August 1976, the Commission of Minority Nationalities Affairs and the Ministry of Education jointly held the First National Conference of Presidents of Colleges for Nationalities. The conference discussed the principles, policies and problems of how the educational work of the colleges served the four modernizations. Thus, it pushed forward the work of those colleges.

Hong Xiang Wang, Mississippi State University

In June 1980, the Ministry of Education issued the Circular of the Full-time Key Institutes Running Experimental Classes of Minority Nationalities. This was a new way to develop (and an effective measurement to reform) the higher education of the minority nationalities in China. In that year, five key institutes subsidiary to the Ministry of Education were the first to run as an experiment class for the students of the minority nationalities. About 150 minority students from nationalities such as Inner Mongolia, Xinjiang, Yunnan, Guizhou, and Sichuan, entered the classes. In 1981, another two colleges were organized. Thus, there were seven colleges and universities for the 250 students of the minority nationalities from Inner Mongolia, Xinjiang and the other nine provinces of autonomous regions.

II. Progress

From the founding of new China until now, great changes have taken place in minority nationality higher education. The central government and state governments at all levels have attached great importance and special consideration to the higher education of the minority nationalities. Inland provinces and cities have also given enthusiastic support and coordination. According to incomplete statistics, about 1,000 teachers of inland colleges and universities have gone to remote districts to give lectures. There have also been large quantities of educational facilities, books, and reference materials allocated to these regions. Therefore, higher education of the minority nationalities in China has developed greatly and rapidly.

By the end of 1986, there were 106 colleges and universities of minority nationalities, nearly ten times as many as in 1952, and five times as many as in 1975. This was an increase of 42% over 1980. In the past two years, the colleges and universities that have been set up, or are being established, include the Second Northwest Nationalities Institute, Qinghai Tibetan Medical College, Tibet University, Xinjiang Artistic College, and a training center for the teachers of the minority nationalities. Students of the minority nationalities at study amounted to 99,468 or 3,455 times as many as those in 1952. In 1984, teachers in colleges and universities of the minority nationalities amounted to 17,000, some 28 times as many as those in 1953. Moreover, there has been a rapid growth in the numbers of the teachers of the minority nationalities.

With the improvement of conditions of scientific research and educational quality, the colleges and universities of the minority nationalities have trained a large number of students with B.A./B.S. degrees and a number of postgraduates with Master's degree. Beginning in 1984, doctoral students of the minority nationalities were enrolled. (See table below).

Increase in the Higher Education of Minority Nationalities in China from 1951 to 1990

Year	Colleges	Teachers	Student
1951			2,100
1952	11		2,900
1953		600	
1957			16,100
1965	30	3,300	21,900
1975	21		
1978	31	5,900	36,000
1981	42	8,300	51,000
1984	75	17,000	59,600
1986	107		99,498
1990	107		

III. Problems

While the progress of 40 years of higher education of minority nationalities is obvious, there are still problems to be solved. Four main problems of structure, capacity, newness and growth are discussed here.

(1) Unreasonable structure.

The higher education of minority nationalities had developed rapidly, but, unfortunately, the basic educational structure has been neglected. That is, the educational system does not fit the social economic requirement. In looking at professional training, the number of trainees is out of proportion to the jobs available. For quite a long time, more personnel have trained for leadership positions than for jobs in specific fields (i.e. education, teaching, engineers, agriculture specialties, etc.). Emphasis was placed on training undergraduates, but not much has been done in the training of professionals. There are still some unreasonable factors in the structure of specialties and faculties. The disproportion of the ratio of science and liberal arts graduates is a deficiency in the whole Chinese higher educational structure, and this also happens in the higher education of the minority nationalities. In the fields of management, political science and law, finance and economics, and the history of the minority nationalities, we haven't trained enough professional minority nationality personnel to meet the needs. In the point of the relationship between the educational structure and the social economical structure, we have more or less overlooked the institutes and faculties that are closely related with the economy of the regions of the minority nationalities. While the Chinese minority nationalities occupy some 50%–60% of the total area of China, and while most of the regions of national autonomy have rich minerals, these regions have always been short of the professional personnel required to market these resources.

(2) The capacity of colleges is insufficient.

Because the educational and economic basis of the minority nationalities is weak, the capacity of the nationalities colleges and universities is generally small. In 1984, there were 75 colleges and universities of the minority nationalities in China, and 59,600 students in all. According to the figures, we can see that each college only had 784 students. For example, there are less than 500 students in Xinjiang Traditional Chinese Medical College, and Hainan Teachers' Training School for Nationalities had only 22 teachers. All these factors negatively influence education and cause a great waste of facilities and personnel.

(3) Too many newly-set-up colleges.

In China now, there are 107 colleges and universities for minority nationalities, with most of them established after 1976. These colleges and universities are generally lacking in qualified teachers. They have not formed their own cadre of old and new teachers. Some of the colleges have a faculty with more than half young teachers. Most of these are undergraduates with a B. A./B. S. degree and only a few are with the M. A./M.S. degree. There are even fewer with a doctoral degree. Full professors and associate professors are a small percentage of total faculty. Most of the teachers are lecturers or assistant professors. There are some people teaching without degrees and some who have not been teaching sufficiently long to have been given a title.

(4) Uneven growth

Higher education for the minority nationalities has not developed evenly in each region. Because of political and economic reasons, higher education for the minority nationalities in the Southeast has grown more rapidly than in the Western part of China. There is also a disequilibrium between the stan-

dards of new and old schools. Such an uneven distribution of wealth and support has resulted in an uneven growth of educational opportunities and economic development.

The problems above have historic, economical, and ideological causes. Some include:

1. Historic causes: For a long time, regions of the minority nationalities were relatively backward politically, economically, and culturally. Before 1949, some regions of the minority nationalities were still at a primitive stage. Though the higher education for the minority nationalities has developed greatly, it is difficult to overcome quickly the traditions of families.
2. The remote geographical regions with their poor transport services and lack of communication systems have delayed the economic development, which delayed the development of higher education.
3. Ideologically, China has not dramatically changed its understanding of the importance of higher education since liberation. Education has not occupied its proper leadership position in the national economy and cannot gain a stable investment in education for all citizens, particularly higher education for the minority nationalities. Some people even think that it is unnecessary to develop the higher education for the minority nationalities.

Reform and open door policies have given people a chance to think about 40 years progress and the problems of minority higher education in China. There are a lot of things that need to be done urgently. At present, the following prominent problems have to be solved as quickly as possible:

(1) The qualified teachers are the essential prerequisite for the higher education of the minorities. The training of the teachers in nationality formal colleges and universities is of first importance. Since we cannot train qualified teachers without a corps of qualified college teachers, a vicious cycle is occurring in national education, especially for minority nationalities.

(2) A reasonable system of Bachelors, Masters, and Doctoral levels, with the required course, for higher education should be built up. This is also required for minority nationalities.

(3) In order to lay a good foundation for the higher education for the minority nationalities, special attention should be paid to basic education. This is required before students enter colleges and universities.

(4) Dimensions of recruiting students to colleges and universities ought to be expanded to make the best use of facilities and teachers. However, the admission standard should not lower just to enlarge enrollments.

(5) The development of higher education for the minority nationalities is closely linked to the development of their economies. Therefore, educational workers and the educational administrative organizations ought to strengthen their study of the economic structure of the minority nationality regions, especially the relationship between the level of educational achievement and the social economic structure.

(6) Governments must take a positive attitude towards the importance of the higher education for the minority nationalities. This will be shown only when China develops and implements an agenda for the study of higher education for all Chinese. This must include both majority and minority nationalities.

It is very important to develop modern higher education for minority nationalities in China in order to keep the country economically stable. This paper expresses some ideas and suggestions based on the country's 40 years of experiences. China cannot waste anymore time; the quality of education for the entire population must be raised, including minorities, in order to build the four modernizations.

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LEGISLATIVE NOTE

An Operational Look at Federal Impact Aid: The West Point–Highland Falls Example

John R. Curley

Note: The opinions expressed herein are my own and do not necessarily reflect the official views of the New York State Education Department.

This is an analysis of funding changes in the Federal Impact Aid program and the effect on the Highland Falls School District. It is Federal policy to provide necessary financial assistance to school districts which have been impacted by Federal activities. However, the situation at Highland Falls illustrates that in practice there has been a divergence between stated policy and the Impact Aid program as implemented over the past decade.

In 1950, with the outbreak of the Korean conflict and subsequent military buildup, Public Law (P.L.) 81–874 established the Federal Impact Aid program in place of several others which had been previously authorized to compensate school districts across the United States that had been impacted by various Federal activities. These activities included Federal acquisition of property and the influx of Federally connected families with school age children.

Most Federal education programs are intended to address the purposes of promotion of equal educational opportunity, stimulation of efficiency and adequate investment in education, and the preservation of diversity and choice in higher education.[1] Impact Aid, however, serves an altogether separate purpose, as compensation to school districts for lost tax revenues and to pay for the education of Federally connected pupils. Impact Aid is not supplementary aid but is intended to meet a Federal obligation to pay for basic educational services.

In Section 1 of P.L. 81–874, Congress declared it to be the policy of the United States to provide financial assistance "for those local educational agencies upon which the United States has place financial burdens by reason of the fact that—

(1) the revenues available to such agencies from local sources have been reduced as the result of the acquisition of real property by the United States; or

(2) such agencies provide education for children residing on Federal property; or

(3) such agencies provide education for children whose parents are employed on Federal property; or

(4) there has been a sudden and substantial increase in school attendance as the result of Federal activities"

The Federal government thus acknowledged that it had an obligation to compensate school districts both for revenues foregone due to the Federal acquisition of property and for the educational services provided to Federally connected pupils.

Impact Aid, unlike most Federal aid to education, is general rather than categorical aid. Consequently the funds received go into a school district general fund and, except for an extra weighting for Federally connected pupils who are also handicapped, no accounting for the use of funds is required.

The program has several sections to address different types of Federal impact. A school district may apply for compensation under Section 2 when the Federal acquisition of property within the school district since 1938 represents at least 10 percent of the total assessed valuation of all real property in the school district and has placed a substantial and continuing financial burden on the district the revenue loss for which the district is not being substantially compensated. School districts are entitled to receive an amount each year equal to the amount of tax revenue for the property, in an unimproved condition, that has been lost to the district as a result of the Federal acquisition, since Federal property cannot be taxed.

To be eligible for aid under Section 3, a school district must have Federally connected children in the schools totaling either 400 or 3 percent of its average daily attendance (ADA) and at least 10 ADA, whichever is less. There are two classifications of such children. Subsection 3(a) children are those who both reside on Federal property and have a parent either employed on Federal property or in the uniformed armed services. Subsection 3(b) children are those who either reside on Federal property or have a parent employed on Federal property or in the uniformed armed services. School districts are differentially compensated under these two classifications of children, payments for Subsection 3(a) children being much greater because the parents of these children pay no local property taxes and their employer, the Federal government, also pays no taxes.

Subsection 3(d)(2)(b) provides for additional assistance to school districts with 50 percent or more of ADA Federally connected if, even though the school district is making a reasonable tax effort and availing itself of state and other financial assistance, the total funds available to the district are less than that necessary to provide a level of education equivalent to comparable districts in the state. Only a few districts nationwide receive assistance under this Subsection.

Section 6 provides for the free public education of children who reside on Federal property when (a) no state or local tax revenues may be expended, for the education of such children, or (b) no school district is able to provide for the education of such children. Section 6 pupils are military dependents residing on U.S. military bases. There are 17 schools operated for these pupils by the Federal government, including the elementary school at West Point. In addition, there are some Section 6 arrangements under which tuition or other payments are made for those dependents educated in local school districts. The appropriations for Section 6 have since FY82 been in the Department of Defense budget. Appropriations for all other Sections of the program are in the Department of Education Budget.

EFFECTS OF IMPACT AID REVENUE SHORTFALL

Each national administration since the 1950's has attempted to reduce the Impact Aid program.[2] For the most part, however, the program continued to flourish and appropri-

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https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

ations were generally sufficient to meet the need until the Reagan administration took office in 1981.

From Federal Fiscal Year 1981 to 1982 alone, the national appropriation for Sections 2 and 3 of Impact Aid declined 31% from $631 million to $439 million. With the inflation at the time, school districts across the country were faced with the difficult choices of increasing local taxes and/or cutting educational programs.

It has been noted that despite an increase in the overall U.S. Department of Education budget from $14.5 billion in 1980 to $15.3 billion in 1983, this increase was $2 billion short in terms of real dollars because of inflation.[3] Compounding the problem of inflation, the Impact Aid program suffered a drastic decrease in the national appropriation as shown in Table 1. The Highland Falls, New York District was particularly affected and the experience there illustrates the need for the Impact Aid program, and yet how individual districts may be severely affected by change in policy.

The Highland Falls School District

There has been a long and continuous relationship between the West Point military community and Highland Falls, New York, School District which includes West Point within its boundaries. The school children who live at West Point attend a Federal operated elementary school and then generally go to the high school operated by the Highland Falls District. In the 1988–89 school year, the Highland Falls School District had an enrollment of 1,106, with approximately 600 at the high school level. About one-third of the secondary pupils are from West Point. Almost 15 percent of total enrollment is comprised of pupils from minority groups some of whom are descended from the so called Buffalo soldiers who gained fame in the old West and were later stationed at West Point.

Highland Falls has a relatively low percentage of children living in poverty, 3 percent in 1987–88 compared to 12 percent in Orange County and 18 percent statewide. It has also had a consistently low dropout rate, 1.9 percent in 1987–88 compared to 4.2 in the county and state average of 5.0 percent. Average class size is relatively small, pupil results on standardized tests are well above average and about 78 percent of the high school's graduates go on to college.

The district appears to be below the state average in terms of wealth, by both the property value per pupil and income wealth per pupil measures. In 1986–87 District property wealth was 63.7 percent of the state average and income was 87.5 percent of the average. Of the 16 school districts in Orange county, Highland Falls is only 10th wealthiest, on a per pupil, basis, using a ratio of these two wealth measures combined for comparison. However, it has the 4th highest expenditure rate per pupil in the county with the Federal and State levels of government providing a combined 68 percent of total revenue to the Highland Falls District in 1986–87.

Impact Aid to Highland Falls under Sections 2 and 3 was reduced approximately 18% from the 1980–81 to 1981–82 school years, but after a face-to-face meeting with the Highland Falls Superintendent, the U.S. Secretary of Education promised that some additional money would be found in the Federal budget to help the District with its budget problems.[4]

Highland Falls did, in fact, receive special Federal appropriation amounts of first $200.000 in 1982–83 and then $300,000 in 1983–84. However these appropriations were clearly only short term solutions; and in spite of this additional aid the District still had a revenue shortfall for those years, in part because some Impact Aid payments due were made in subsequent school years. At the same time, State aid, although it increased somewhat in total dollars, declined as a percentage of total District revenue, from 56% in 1981 to 52% in 1984. As a result of the continuing financial difficulties and despite increases in the local tax levy, instructional staff had to be reduced by 15% from 1981 to 1984.

ACTION TAKEN TO ADDRESS THE REVENUE SHORTFALL PROBLEM

Several steps were taken by the Highland Falls School District to try to extricate itself from its financial difficulties. These included:

- application of additional Impact Aid under Section 3d(2)(B)
- a proposal to transfer a grade from the West Point school to the Highland Falls School District to increase the number of 3(a), pupils which would then increase Impact Aid funding.
- introduction of legislation in Congress that would provide additional assistance to Highland Falls, including one bill for special aid to those school districts impacted by the three major Federal service academies.
- notification to Federal officials that the District might have to close the high school unless the Federal government paid the full local cost of education the West Point secondary pupils.
- seeking special aid from the state

The application for Section 3d(2)(B) aid was denied and U.S. Department of Education officials also opposed the transfer of children from the West Point school to Highland Falls even though that would have meant that the State would pick up a large share of the cost for those pupils. The proposed legislation to provide special aid to school districts due to the service academies was not generally supported and was not enacted.

The situation changed dramatically after legal authorities at the state level ruled that children residing on West Point lands ceded to the Federal government are not residents of New York State and are not entitled to a free education in a public school. Not all of West Point was ceded, but the ceded area includes virtually all of the residents. The Federal government could not, given this legal stand by the state force Highland Falls to continue providing secondary education to these West Point children. State law does, however, permit nonresidents to attend a public school under terms established by the local Board of Education[5] and such terms typically include the establishment of a tuition charge.

Subsequent to the legal decision and beginning 1985–86, a Section 6 contract was arranged to pay tuition equal to the local cost for West Point children to attend the Highland Falls high school. Although ordinarily non-resident tuition pupils would not generate state aid for the district in which they attend school, a special section of state law[6] specifically allows pupils living at West Point to be treated as resident pupils for the purpose of calculating state aid. The Highland Falls School District also began to receive special state grants beginning in 1984–85 as a direct response to the financial difficulties faced by the District.

From 1984–85 to 1985–86, then, fundamental changes in funding for the Highland Falls School District had developed. Although the District continued to receive Impact Aid under Section 2, primary funding under Impact Aid shifted to Section 6. Additionally, special state grants were appropriated to the District and have continued on an annual basis as needed. The amounts of these Federal and state aids by school year are given in Table 2.

FOCUS ON SECTION 2 AID

Although not the major section of the Impact Aid program, Section 2 is very important to those few districts which do qualify for these funds. During World War II West Point expanded greatly and thousands of acres were acquired at the

time. With the most recent acquisition occurring in 1985, Federal ownership according to school district officials now amounts to 65% of the total land area of the district. Another 14% is state owned and 13% is tax exempt because of ownership by the town, churches, other non-profit organizations, or by senior citizens or veterans eligible for property tax exemptions. State law requires that state lands be taxed at the same rate as privately held lands[7] but the Federal lands are exempt. Of course land area does not necessarily equate to land value but because only 7% of school district land is privately owned and fully taxed, and many residents are retirees on fixed incomes, it became relatively harder for the Highland Falls District to raise needed revenue after the Federal acquisitions.

Section 2 payments to individual school districts depend in part on the number of applicant districts in a given year and as well as the level of funds available from the appropriation. Through most of the 1980's Section 2 was funded at or near full entitlement, but this has changed in recent years. The appropriation for Section 2 declined from $22 million in 1987 to $15.3 million in 1990 even though it was estimated that $22 million would continue to be needed.[8] Consequently school districts will be ratably reduced to 78% of their 1988 entitlement and for 1989 and 1990 it appears they may be paid only 70% of entitlement.

The vast majority of tax-exempt property in the District is Federally owned, so it is crucial to the school district that Section 2 payments be fair. However, the Department of Education makes Section 2 payments on the basis of either the entitlement, as determined by the property assessment times the tax rate, or a need entitlement, whichever is lower. The need entitlement is essentially the Federal share of needed property tax revenue determined after all other revenues have been subtracted from total current expenditures. Since this determination is usually not finalized until the conclusion of a school year, any special State aid reduces the apparent need for Section 2 funds and shifts a greater share of the revenue burden to state tax payers.

Properties in the town of Highland Falls have recently been re-assessed and although the Federal properties have been assessed at $120 million, Federal officials are apparently only willing to accept an assessment of about $94 million. This would yield a marginal increase in the Section 2 aid to Highland Falls because even though it would increase the assessed value of Federal property as a percentage of total district property from about 23–25 percent, ratable reductions and adjustments to payments based on apparent need would lower the actual amount paid.

The Federal position in this matter is that Federal assessments must by regulation be determined in relation to assessments on comparable properties in an unimproved condition, rather than on the full potential value of the property.[9] Adjoining privately owned property which was once farmland might now be covered by housing developments and industries, for example, yet the Federal land would still be assessed only on the basis of its value as farmland.

Summary and Conclusion

Clearly the Federal government has a responsibility to provide financial support for the education of Federally connected pupils. In fact this is the whole premise on which the Impact Aid program is based. The Federal government has contended that in general, Impact Aid is no longer needed to the extent it was in the past because of major increases in state aid, and a broader tax base in school districts due to development and economic benefits brought by Federal installations.

The case of Highland Falls illustrates that these arguments are in conflict with the issue of Federal responsibility and fairness. Highland Falls is educationally a strong school district with superior results in terms of the achievements of pupils but it is relatively small and not financially strong, relying on special state grants to help balance its budget and continually struggling to obtain an equitable amount of Federal Section 2 aid. Total assessment on Section 2 properties as accepted by Federal officials is, according to local assessment, below true market value. Because so much of Highland Falls property is Federally owned and Section 2 aid is first, based on the lesser of entitlement or need and, second, ratably reduced, Section 2 aid to the District is less that what is needed. State aid to Highland Falls on the other hand is far above what it ordinarily would be because of the inclusion of West Point pupils in determining district wealth and in the state aid computations. Yet, this is not been enough and Highland Falls has additionally had to obtain special state grants.

It may be that a Federal presence can stimulate development and other economic activity in some areas but this is not always the case. In a Federal Report on Impact Aid it was noted that there is no generally accepted method for distinguishing between those areas in which the Federal presence results in economic growth and more taxable property and those where it results in net tax losses.[10] Development within Highland Falls is clearly restricted by the fact so little land is available for development. It has pointed out that the economic benefits of Federal installations are mitigated by the fact that not only can residences on Federal property not be taxed, but that frequently military personnel are able to shop in Federally subsidized stores from which no local taxes are generated, and that under the Soldiers and Sailors Relief Act, can claim their official residence in states with no income taxes or law vehicle registration fees.[11]

The special state grants are only short-term solutions to the financial problems of this District just as were the special Federal aid appropriations in the early 1980's. Special grants are not guaranteed and the District must make its case for a grant an new each year and the sponsoring legislator must then convince legislative leaders that the grant is needed and essential. This makes proper budget planning extremely difficult and a continued reliance on special grants is certainly not in the best interests of the District.

Long-term, more permanent solutions need to be found stabilize the financial situation of this District. Although it is problematic to judge what tax benefits might have occurred from alternative land use, a change in Federal regulations which would allow Section 2 assessments to be based on comparative market value rather than on the outdated use of the land at the time it was taken, would be more fair to Section 2 districts. It would also help if Impact Aid appropriations were increased so Section 2 could once again be fully funded and of all payments were equal to entitlement. As mentioned, this would take only about $7 million increase in the Section 2 appropriation but, of course, should not be done at the expense of other sections of Impact Aid which are also underfunded.

The relatively narrow tax base of Highland Falls caused by Federal acquisitions is a major source of the problem of inadequate revenue. If increased aid through changes in Section 2 is not going to be forthcoming, and if the District cannot within its narrow tax base raise sufficient local revenue, it might become necessary to consider consolidation with a larger, neighboring school district so that the tax base is broadened and economies of scale can be realized. This would unfortunately terminate the special relationship enjoyed by West Point and the Highland Falls School District, but may be the only way to achieve long term stability to the problem of providing educational services to the West Point and Highland Falls pupils. If so, it would indicate failure on the part of the Federal Government to assume its responsibilities in accord

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

with its own stated policy by not adequately maintaining the program it established to aid school districts such at Highland Falls which have been impacted by Federal activities.

Table 1
Federal Impact Aid Appropriation Amounts
(in millions of dollars)

Fiscal Year	Section 2	Section 3
1990	15.35	702.000
1989	14.82	693.576
1988	15.32	670.178
1987	22.00	663.000
1986	22.00	614.405
1985	22.00	643.000
1984	20.00	534.000
1983	15.00	435.000
1982	9.60	428.898
1981	12.35	619.400

Source: U.S. Department of Education

Notes

1. See Walter I. Garms, James W. Guthrie and Lawrence C. Pierce. *School Finance: The Economics and Politics of Public Education* (Englewood Cliffs, N.J.: Prentice Hall Inc., 1978)
2. Commission of the Review of the Federal Impact Aid Program, "A Report on the Administration and Operation of Title I of Public Law 874," September 1, 1981.
3. James R. Jones, "The Role of the Federal Government in Educational Policy Matters: Focus on Finance, "*Journal of Education Finance* (Fall, 1984): 238–255.
4. *Education Daily* January 7, 1983, 3.
5. Section 320(2), New York State Education Law.
6. Section 3602(2) (e), New York State Education Law.
7. Section 542, New York State Real Property Tax Law
8. National Association of Federally Impacted Schools, Impact, February, 1990,5.
9. Code of Regulations, 34 Part 222.99.
10. Commission on the Review of the Federal Impact Aid Program, "A Report on the Administration and Operation of Title Q of Public Law 874," September 1, 1981.
11. Thomas R. Shipley, "Concepts of School Finance", presented at State Federal Finance Coordinators annual meeting, Orlando, Florida, October, 1986.

Table 2
Aids Received by the Highland Falls School District 1981–82 to 1988–89

Federal Impact Aid	1981–82	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89
Section 2	244,045	360,097	346,415	509,185	495,141	536,060	336,247 (est.)	379,191 (est.)
Section 3	246,602	245,529	248,464	302,649	—	—	—	—
Section 6	—	—	—	—	565,000	701,000	682,183	773,041
Special Appropriation	—	200,000	300,000	—	—	—	—	—
State Grant	—	—	150,000	150,000	150,000	220,000	700,000	350,000

Sources: U.S. Department of Education and Defense, New York State Education Department.

Review of *School Law for the Principal, A Handbook for Practitioners* by Robert J. Shoop and Dennis R. Dunklee, Allyn & Bacon, 1992.

School Law for the Principal, A Handbook for Practitioners

Joan L. Curcio and Amy Milford

There are many good reasons why Shoop and Dunklee's book could be a valuable asset to educators, especially administrators—and professors too. To begin with, the authors have been broadly comprehensive in their scope of legal issues that face school principals. No topic is belabored, or treated extensively. This approach, the use of laymen's language, and the inclusion of learning activities with scenarios, would make it a perfect, basic book on school law with which to train potential school principals. Any professor who has searched for a text for certification courses, for instance, or as an introduction to the law (without case excerpts, or any reference to the act of legal research) will be glad to find the Shoop and Dunklee book. Any practitioner who wants a quick reference and some basic law knowledge on the issues in schools today will welcome it also.

The book begins in the traditional manner of school law texts by explaining the basic sources of law for the reader. This is a necessary chapter and particularly helpful to those unfamiliar with the construction and function of the judicial system or the general structure of government. This very brief chapter covers a good amount of territory, and the authors are skillful in offering the complexities of the legal process in clear terms, for busy practitioners. On our wish list, however, for this important first chapter on the LEGAL ENVIRONMENT, would be more extensive consideration of the concept of *stare decisis* and its varying interpretations through the years, and a bit more attention to the function of the United States Supreme Court, and the significant impact of its decisions on schools in the last forty years. What the reader will find enormously helpful in understanding the process and language of the law is the extensive glossary in the back of the book.

The rest of the book is organized around four broad sections of maximal concern to the practicing school principal: (1) his or her legal relationship to teachers, and (2) to students, (3) his or her legal responsibility for program management, and (4) tort liability. This organization suits a handbook, allowing the practitioner to go directly to an area which may be particularly applicable or pertinent. If a principal's concern of the moment is a teacher's due process rights, for instance, discussion of those rights will be found in the section that addresses teachers specifically; the principal does not need to wade through pages of general information on the Fourteenth Amendment to get to it.

Perhaps the fourth section, PROGRAM MANAGEMENT, contains the most updated and pressing education issues those of AIDS, homeless children, proselytizing teachers, Christmas observance, school violence, drug activities, testing, and more. Consequently, it is within this section that the learning activities employed by Shoop and Dunklee throughout the book—the scenarios and the Points To Consider—are the most timely, interesting, and engrossing. They are real moments, incidents, that principals will recognize as having happened to them. Now they can weigh and balance them, and reflect upon their own behavior, or potential behavior, in light of the law. These scenarios are useful pedagogical tools, as well as affirmations of what principals confront every day. The summaries at the end of the chapters are useful, too—although, sometimes perhaps, too generally stated. It does become apparent throughout, however, that there are no set answers—only rules of law, and good ad administrative judgment. Not a bad lesson for principals to grasp.

One other section of the book should be addressed in some detail, in that is, at the same time, the most important, and the least important section of the book. We are referring to Section V, PRINCIPAL'S TORT LIABILITY FOR NEGLIGENCE AND RISK MANAGEMENT. Its importance, of course, derives from the heavy liabilities that accrue to principals as a result of their responsibility for supervision and proper building and equipment maintenance (particularly in light of federal regulations regarding hazardous materials and substances in schools). Every bit of the section devoted to Tort Liability for Negligence and Duty and Standard of Care is productive and necessary for practitioners to know. However, if we could drag our wish list out one more time, we would wish that a little less space were used for issues like a legal audit (more acutely significant to the school district officials and school board members) and Risk Management at the School-District Level, so that concepts like third-party liability, special duty, and deliberate indifference, especially in relation to harassment of students, and cases like *Stoneking v. Bradford Area School District*, might be mentioned.

Shoop and Dunklee have written a well-organized, easy-to-read, current, and useful book; it has some real assets. Perhaps its major asset is that it addresses some very important and timely issues encountered by school principals, and then it offers guidelines for practice after discussing the rule of law. Few books provide the practice this book affords. We would be remiss however in highlighting its major assets if we did not also look for a moment at what the drawbacks of this text might be, for particular uses and certain situations.

This book is written for principals already performing today in typical bureaucratic structures; its mode then is reactive, more than proactive. Therefore, it would not serve entirely as a text, supplementary or otherwise, to accompany a course in which newer concepts of governance (for example, participative decision-making, site-based management, governance by local school councils, elements of total quality management, full service schools, etc.) are introduced. In the same vein, the emphasis on risk management underscores the conservative, "safe" way to maintain a school or school district. Don't misunderstand; we are not being pejorative concerning a principal's need to be fiscally responsible or safety-minded.

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Book Review

https://newprairiepress.org/edconsiderations/vol20/iss1/15
DOI: 10.4148/0146-9282.1497

Taking precautions, knowing the law, and practicing preventive law are all reasonable steps toward staying out of legal hot water, and to that end, the Shoop and Dunklee book will serve the potential or practicing principal well. It will not directly assist that principal to make decisions about cutting-edge issues, such as: Who has the ultimate legal authority or responsibility when a multidisciplinary team of educators, doctors, and social service workers diagnose and prescribe together for a child or group of children? Are any privacy rights violated when children's records are shared among various disciplines such as those described? Can state regulations be waived in order to accommodate the assessed needs of a particular local school council?

However, as Shoop and Dunklee themselves admit in their Preface, "The organizational basis for this book is the daily activities of the school principal. The book is not intended to explore or even touch on all areas of school law. Nor is it an attempt at an exhaustive analysis of the legal issues that are presented." It is meant to be a book for today, a handbook, a desk reference, and as the presence of activities like the scenarios and Points To Consider confirm, a learning tool for school practitioners about the law as it is written today.

A last comment is one that can be made about any bound volume of school law, and that is how quickly the book itself needs a supplement to keep up with the ever-changing nature of the law. In a book where a quick, panoramic view of a massive topic is given, however, it would have been helpful to have some of the landmines pointed out. In Chapter 11 on Religion in the Schools, for instance, the introduction gives no hint of the judicial discussion that has stalked the Lemon Test in recent years; nor does the reader know that Religious Expression in Ceremonial Programs is a hot topic, or that *Lee v. Weisman* happened, or was even about to happen. There are other examples, such as making only a passing reference to the Individuals with Disabilities Act or stating that there are no data regarding incidence about sexual harassment in school districts.

With all that said, *School Law for the Principal* remains a good choice as an introduction to public school law matters. Shoop and Dunklee deserve to have their book considered for use, and need a pat on the back for their concern for practitioners in the real world.