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ABSTRACT

This study examined relationships among three sets of variables: strategic planning in school districts; school district achievement in reading, language arts, and mathematics; and school district financial and demographic factors. Ten financial and demographic factors are investigated: (1) current expenses; (2) pupil-teacher ratios; (3) costs of instruction; (4) dropout rates; (5) percentages of Local Education Agency supplement for instructional salaries; (6) percents of economically deprived students; (7) local financial indexes; (8) attendance rates; (9) assessed property values per child; and (10) percentages of revenue from local sources. All 178 public schools in Kentucky were asked to participate in the study, and 127 usable responses were returned. The most striking finding to emerge was the moderately strong relationship between school district performance on standardized achievement tests and most of the demographic and financial factors. Appended are 27 references, a strategic planning model, and 3 tables of strategic planning correlations. (SI)

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STRATEGIC PLANNING, STUDENT ACHIEVEMENT AND
SCHOOL DISTRICT FINANCIAL AND DEMOGRAPHIC FACTORS

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STRATEGIC PLANNING, STUDENT ACHIEVEMENT, AND SCHOOL DISTRICT FINANCIAL AND DEMOGRAPHIC FACTORS

With the emphasis on accountability in education today, school administrators are faced with the challenge of developing and implementing educational systems that are effective and efficient. Local, state, and federal mandates are requiring increased justification and documentation of program results. Communities are questioning school district programs, policies, and procedures. Parents and other constituencies are demanding greater participation in school programs. Educational administrators must respond by devising more effective methods of administrative management. Strategic planning is considered to be important to effective administrative management (Ivancevich et al., 1980, p. 52; Huntsman, 1986, pp. 11-12).

For planning to be effective, it needs to eventually affect students in some way. In describing the first step in providing instructional leadership, Wallace (1985) asserted that "one must begin with an analysis of standardized tests results" (p. 7). No planning process in education is complete unless a direct attempt is made through goal-setting to improve student academic learning (Lewis, 1983, p. 68). And William Bennett (1988), former Secretary of Education, proclaimed the importance of student achievement when he said, "And the entire project of American education - at every level - remains insufficiently accountable for the result that matters most: student learning" (p. 2).

While business has devoted a great deal of attention to strategic planning (Camillus, 1986; Gardner et al., 1986; Pfeiffer, 1986; Bryce, 1987; Below et al., 1987; Morrissey, et al., 1988) it is only recently that any emphasis has been placed on the study of strategic planning in school settings. And the

investigation of the relationship between strategic planning and student achievement has been neglected. The research reported here seeks, on a modest scale, to begin to remedy that situation. More specifically, this study examined relationships among three broad sets of variables: (1) strategic planning in school districts; (2) school district achievement in reading, language arts, and mathematics; and (3) ten school district financial and demographic factors including a) current expenses, b) pupil - teacher ratio, c) cost for instruction, d) dropout rate, e) percent Local Education Agency (LEA) supplement for instructional salaries, f) percent economically deprived, g) local financial index, h) attendance rate, i) assessed property value per child, and j) percent revenue from local sources.

STRATEGIC PLANNING

The very nature and purpose of public education has been questioned recently. Cook (1988) identified several factors which have contributed to this condition. The Presidential Commission's report, the Carnegie Commission's report, the National Governor's Commission report; the negative impact of teacher strikes and the issue of merit pay; the unsettled question about teacher accountability and the achievement of students; declining tax bases; the curtailment of federal funding to schools; bureaucratic state departments of education; and inept school administrators--all seem to have combined into a quiet crescendo of confusion and doubt even among the very best educational leaders (p. 20). It is possible that this diminishing public support is the result of the school administrator's failure to plan adequately for the future. Why?

Strategic planning has not been well defined. School administrators talk about strategic planning, but there is a distressing overabundance of ideas

about what strategic planning really is (Cook, 1988). Nevertheless, there is sufficient similarity among definitions to permit a rough schema of classification. A sampling of some representative definitions of strategic planning is presented in Table 1.

Table 1
Some Representative Definitions of Strategic Planning

Strategic planning "consists of setting long-term goals, determining the best means of attaining them, and relating the chosen course to operating plans" (Lilly, 1984, p. 1).

Strategic planning is "the process by which schools allocate their limited resources to solve problems that face them"--(Lieber, 1984, p. 26).

Strategic planning is "the process by which the guiding members of an organization envision its future and develop the necessary procedures and operations to achieve that future"--(Pfeiffer, Goodstein & Nolan, 1985, p.2).

Strategic planning is "a process consisting of . . . an examination of the current environmental circumstances . . .; the establishment of a statement of purpose or mission with related time-frame goals; supporting operational objectives and specific plans to carry out these objectives; and resource analysis"--(Spikes, 1985, pp. 3-4).

Strategic planning is "a process for organizational renewal and transformation (which) provides a framework for improvement and restructuring of programs, management, collaborations, and evaluation of the organization's progress"--(McCune, 1986, p. 34).

Strategic planning is "a process designed to move an educational organization through the steps of understanding changes in the external environment, assessing organizational strengths and weaknesses, developing a vision of a desired future and ways to achieve that mission, developing and implementing specific plans, and motivating that implementation so that necessary changes can be made"--(Brown & Marshall, 1987, p. 1).

Strategic planning is ". . . a plan characterized by originality, vision, and realism . . . aimed at total concentration of the organization's resources on mutually predetermined measurable outcomes"--(Cook, 1988, p. 83).

While these definitions differ slightly, they identify three essential elements of strategic planning: (1) an orientation toward the future, (2) a vision or mission, and (3) widespread participation of faculty and community members in the planning process. Strategic planning within a school district does not eliminate the need for traditional planning activities. Rather, it provides the framework or superordinate set (a mission and strategic goals) to guide other planning, decision making, and management (McCune, 1986, pp. 35-36). Strategic planning assumes an open system whereby organizations must constantly change as the needs of the larger society change. It focuses on the process of planning, building a vision, internal and external environmental scanning, and faculty and community development. Strategic planning is done by a small group of planners with widespread involvement of stakeholders. It uses current and projected trends to make current decisions. Strategic planning emphasizes changes outside the organization, organizational values, and proactive action. Strategic planners ask what decision is appropriate now based on an understanding of the situation five years from now. And finally, strategic planning depends upon intuitive and creative decision making as to how to guide the organization over time in a dynamic environment, and an organization-wide process that anticipates the future, makes decisions, and behaves according to an agreed-upon vision.

STUDENT ACHIEVEMENT

The objectives of the school as a social institution are to achieve major changes in the student. These changes are not restricted to cognitive behavior (learning) but include a wide range of social, emotional, physical, and in some cases moral behavior (Bidwell, 1965). However, while schools

define multiple goals, academic achievement is the only goal that is regularly measured. This is because student achievement can be measured with some degree of uniformity and accuracy with the use of standardized achievement tests.

Furthermore, one researcher asserted that an increase in student achievement was the most important reason for improving planned change (Schank, 1985). Another writer asserted that planning does make a difference, when he noted that an effective planning process should accomplish four things: (1) improve the decision making ability of the planning unit administrators; (2) enhance the planning unit administrators' ability to function; (3) affect all major key result areas of the school district positively; and (4) increase student learning and growth (Lewis, 1983, p. 245).

FINANCIAL AND DEMOGRAPHIC FACTORS

Ten financial and demographic factors were examined in this study. Definitions of these factors are contained in two documents (Kentucky Department of Education, 1987; Warren County (KY) Public Schools, 1987). They include the following:

1. *Current Expenses*. Annual current expenses per pupil in average daily attendance. The total current expenses were divided by the average daily attendance to arrive at the figure. Current expenses include costs for administration, instruction, attendance services, health services, pupil transportation, operation of plant, maintenance of plant and fixed charges.

2. ***Pupil-Teacher Ratio.*** This factor was determined by dividing the enrollment at the school building level by the number of classroom teachers reported on the federal and state salary schedules.
3. ***Cost for Instruction.*** Cost per pupil for instruction was calculated by dividing the total amount spent for instruction by the average daily attendance. The total amount spent on instruction excludes federal programs.
4. ***Dropout Rate.*** The dropout rate represents the percent of students in grades 7-12 who drop out of school during the school year. It includes withdrawals in attendance accounting codes W6—a pupil who became 16 and dropped out; W7—a pupil excused from school because of mental or physical disability; W10—a pupil discharged; and W11—a pupil excused from school because of marriage.
5. ***Percent Local Education Agency (LEA) Supplement for Instructional Salaries.*** This factor represents the amount of money provided by the LEA in addition to the Minimum Foundation Program funds (state funds) as a percent of the total expenditures for instructional salaries.
6. ***Percent Economically Deprived.*** This factor represents the percentage of children eligible for free school lunch benefits in proportion to total children of school age in the district.
7. ***Local Financial Index.*** The index was derived by dividing the local revenue per child in average daily attendance by the assessed property value per child in average daily attendance. This index measures the amount of effort a community puts into the support of its schools based upon its ability to pay.
8. ***Attendance Rate.*** Percent of attendance is found by dividing the aggregate days attendance by the aggregate days membership.

9. *Assessed Property Value Per Child.* The assessed property value per child is calculated by dividing the total assessed property value in the district by the average daily attendance for the district.

10. *Percent Revenue From Local Sources.* This factor represents the percent of the local district's total revenue that is received from local sources. This total excludes non-revenue receipts.

This exploratory effort attempts to answer three research questions. These research questions focus on strategic planning in school districts, school district performance on standardized achievement tests (student achievement), and selected school district financial and demographic factors. Thus, the study employs the following research questions to explore these relationships:

- (1) What is the relationship between strategic planning in school districts and school district performance on standardized achievement tests (student achievement)?
- (2) What is the relationship between strategic planning in school districts and selected school district financial and demographic factors?
- (3) What is the relationship between school district performance on standardized achievement tests (student achievement) and selected school district financial and demographic factors?

No other study shows a direct tie-in between strategic planning in school districts and school district performance on standardized achievement tests (or results management), which constitutes what might be referred to as an Integrated Planning Process. A strategic planning model was devised to guide the research. (See Figure 1.) The strategic planning model incorporates the three broad sets of variables which were examined in this study. As shown in

the model, strategic planning begins with a mission statement consisting of beliefs and goals of the school district's personnel which provide guidelines for conducting a critical analysis of the internal and external environments, preparing planning assumptions, selecting action goals, developing objectives and evaluation procedures, designing an action plan, and monitoring and reporting results.

INSERT FIGURE 1 ABOUT HERE

As shown in figure 1, we have placed student achievement and the other ten selected demographic and financial school district factors in the context of a macroenvironment. Within that context these variables represent an important consideration of the strategic planning process and actions initiated to effect school district plans by analyzing, synthesizing, and evaluating this environment.

METHOD

In order to gather empirical evidence on these relationships, it was necessary to provide measures for strategic planning, student achievement, and ten demographic and financial factors. A sample of school districts also had to be selected.

Sample

All 178 public school districts in Kentucky were asked to participate in the study. A letter describing the research together with the materials (see Instruments section) were mailed to the superintendents in each school district. A total of 127 usable responses were returned (71.4 percent). The school districts ranged in size from 400 to well over 100,000.

Instruments

Strategic planning was operationally defined by the Strategic Planning in Kentucky Schools (SPKS) Scale. It consists of 20 forced-choice items with several Likert-type response categories. In addition, several items require the attachment of planning documents to supplement the scale. The construction of the SPKS Scale and information on its reliability and validity is reported in Basham (1988, pp. 29-33).

Student achievement was measured by the Kentucky Essential Skills Test (KEST). The KEST generates four scores, a score in each of three content areas: reading, language arts, and mathematics and a total score which is a composite of the three subtests of KEST.

The KEST was administered as part of a total sample survey of students in grades 3, 5, 7, and 10 in all public schools in Kentucky in Spring, 1987. Ten demographic and financial factors were obtained from the Kentucky Department of Education state data bank for the 1987 school year. The ten factors are: (1) current expenses, (2) pupil-teacher ratio, (3) cost for instruction, (4) dropout rate, (5) LEA supplement for instructional salaries, (6) percent economically deprived, (7) local financial index, (8) attendance rate, (9)

assessed property value per child, and (10) percent revenue from local sources. These factors were defined earlier. (See Demographic and Financial Factors section.)

RESULTS

Research question one called for an examination of the relationship between strategic planning in school districts and school district performance on standardized achievement tests (student achievement). Pearson product - moment correlation coefficients were computed between the strategic planning measure and student achievement test scores in reading, language arts, mathematics, and composite achievement in grades 3, 5, 7, and 10. Of the resulting correlation coefficients reported in Table 2, ten were significant, $p < .05$. Achievement test scores in reading in grades 5 and 10; language arts in grades 5, 7, and 10; mathematics in grades 7 and 10; and total achievement (composite of the three subtests) in grades 3, 5, and 10 were significantly correlated with scores on the SPKS Scale. None of the relationships was strong. The proportion of variance in strategic planning shared with student achievement was only 6 percent, even in the case of the highest correlation coefficient obtained.

INSERT TABLE 2 ABOUT HERE

With respect to research question two, significant correlation coefficients emerged between strategic planning and seven of 10 financial and demographic school district factors: current expenses (.31, $p < .001$), cost for instruction (.33, $p < .001$), supplement for instructional salaries (.29, $p < .001$), percent economically deprived (.30, $p < .001$), local financial index (.22, $p < .01$), assessed property value per child (.39, $p < .001$), and percent revenue from local sources (.34, $p < .001$). No significant correlations were produced between strategic planning and pupil-teacher ratio ($-.15$, $p > .05$), dropout rate ($-.02$, $p > .05$), or attendance rate (.14, $p > .05$). These relationships are shown in Table 3.

 INSERT TABLE 3 ABOUT HERE

Multiple regression analysis was carried out also. Ten predictor variables were used with the SPKS Scale scores as the criterion variable. They were the ten selected school district financial and demographic factors. Using forward, stepwise inclusion procedures, all ten predictors accounted for 37.2 percent of the variance in strategic planning, but assessed property value per child alone accounted for 31.4 percent of it. Thus, assessed property valuation per child was the single best predictor of strategic planning.

Research question three called for an analysis of the relationship between school district performance on standardized achievement tests (student achievement) in reading, language arts, mathematics, and composite achievement

in grades 3, 5, 7, and 10 and ten financial and demographic school district factors. Of the 160 correlations computed, 131 were significant. The data are depicted in Table 4.

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 INSERT TABLE 4 ABOUT HERE
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The correlations shown in Table 4 are not surprising, but some interesting contrasts may be noted. First, of the three school district demographic factors--pupil-teacher ratio, dropout rate, and attendance rate--only pupil-teacher ratio was not consistently and significantly related to student achievement across all subject areas and grade levels. Second, of the seven school district financial factors, three factors--percent economically deprived, assessed property value per child, and percent revenue from local sources--were consistently and significantly correlated with student achievement across grade levels and subject areas. Finally, the percent economically deprived factor is more strongly related to student achievement than any of the other financial and demographic factors.

Using forward, stepwise regression analyses, ten predictor variables were regressed against the composite achievement test scores as the criterion variable. They were the three school district demographic factors and the seven financial factors. All ten predictors accounted for 56.4 percent of the variance in school district performance on standardized achievement tests (student achievement), but the percent economically deprived and the dropout rate factors combined accounted for 53 percent of the variance. Clearly, the

school district's economically deprived and dropout rate indexes were the main predictors of school district performance on standardized achievement tests.

DISCUSSION

The moderately strong relationship between school district performance on standardized achievement tests and most of the demographic and financial factors was the most striking finding that emerged from this inquiry. The relative strength of these relationships probably suggests that school district performance on standardized achievement tests and the selected school district financial and demographic factors are somewhat colinear. In other words, school district performance and the financial and demographic indexes seem to represent a set of achievement related factors. Future inquiry may need to consider more global conceptual and operational definitions for these or other achievement-related factors when examining school district performance on standardized achievement tests.

The case for a relationship between strategic planning in school districts and school district performance on standardized achievement tests is less clear cut. In the present study, we found an inconsistent and weak association between strategic planning and student achievement. Perhaps we should not be surprised at the weak relationship between these two variables.

One possible explanation is that the tasks and functions performed at the board level, in this case strategic planning, may not have filtered down to the classroom level sufficiently to impact student achievement. For example, Talcott Parsons (1967) contended that formal organizations, in general, and school districts in particular, manifest distinctive levels, each with peculiar tasks and functions. He emphasized that these systems or levels are

marked by periodic breakdowns in hierarchical line relationships, and he highlighted the problems of articulation among the levels. Teaching lies within what he labelled the technical level, the principalship lies within the managerial level, and the board of education and superintendent lie within the institutional level. Parson's general proposition seems consistent with the notion of the heterogeneity of teaching performance within individual classrooms in a given school district.

Teaching takes place in the relative isolation of the classroom, at least as far as the board of education and superintendent, principal, and other teachers are concerned. This provides teachers with flexibility in the way in which they deliver instruction to students. In any case, it appears that public schools are characterized by heterogeneity of teaching competence within individual classrooms, schools, and school districts. Future research may need to focus on building-level strategic planning instead of district-level planning when examining relationships between strategic planning and student performance. Recent emphasis on site-based management (Goodlad, 1984; Sizer, 1985) is consistent with such an approach.

Next, we turn to the relationship between strategic planning and school district financial and demographic factors. Only the financial factors in the present study were significantly but moderately associated with strategic planning. Assessed property value per child showed the strongest relationship with strategic planning. Multiple regression analysis reaffirmed this relationship. The finding is inconsistent with two earlier, somewhat related studies of planning practices in public schools. First, Whelan's (1980) study of planning practices in New York state public schools showed an inverse relationship between school district wealth and planning. And, another study of planning practices (Huntsman, 1986) demonstrated a negative association

between planning practices and per pupil expenditures. Theoretically, one would expect some relationship between planning and both school district wealth and expenditures for educational services.

The results of this study should be interpreted with some caution. The sample of school districts was drawn from a single state, and no control group was used in this study. Furthermore, the statistical and design problems generally associated with correlation studies also pose limitations. Admittedly, the study was exploratory, but the results indicate the potential fruitfulness of further investigation of strategic planning and school district productivity.

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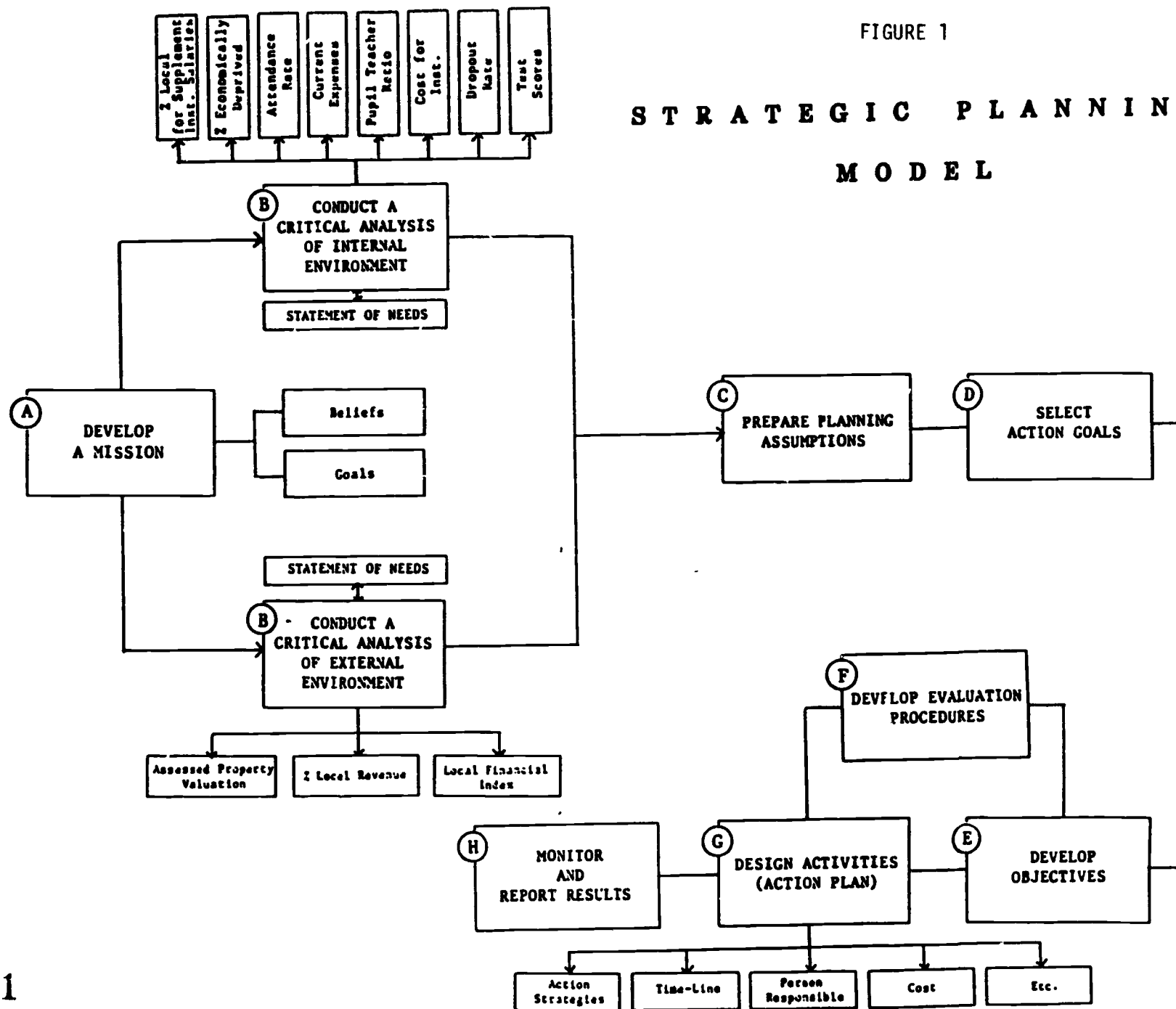


FIGURE 1

STRATEGIC PLANNING MODEL

Table 2
Correlations of Strategic Planning with Achievement Test
Scores in Reading, Language Arts, Mathematics, and
Composite Achievement in Grades 3, 5, 7, and 10

Variable	Correlation
Reading	
Grade 3	.12
Grade 5	.20*
Grade 7	.15
Grade 10	.22**
Language Arts	
Grade 3	.12
Grade 5	.19*
Grade 7	.22**
Grade 10	.23**
Mathematics	
Grade 3	.06
Grade 5	.13
Grade 7	.25**
Grade 10	.23**
Composite	
Grade 3	.09
Grade 5	.21**
Grade 7	.24**
Grade 10	.24**
* p < .05 ** p < .01	

Table 3
Correlations of Strategic Planning with Ten School
District Financial and Demographic Factors

Variable	Correlation
Current Expenses	.31***
Pupil - Teacher Ratio	-.15
Cost for Instruction	.33***
Dropout Rate	-.02
Percent LEA Supplement for Instructional Salaries	.29***
Percent Economically Deprived	.30***
Local Financial Index	.22**
Attendance Rate	.14
Assessed Property Value per Child	.39***
Percent Revenue from Local Sources	.34***

* p < .05 ** p < .01 *** p < .001

Table 4
Correlations between School District Achievement in Reading, Language Arts, Mathematics, and Composite Achievement in Grades 3, 5, 7, and 10 and School District Financial and Demographic Factors

	CE	P-TR	CI	DR	SIS	ED	LFI	AR	APVC	RLS
CG3	.23**	.13	.30***	-.32***	.31***	-.43***	.13	.36***	.30***	.32***
CG5	.29***	-.14	.32***	-.41***	.32***	-.45***	.26**	.42***	.38***	.45***
CG7	.20*	-.05	.22**	-.45***	.26**	-.58***	.02	.44***	.51***	.38***
CG10	.18*	-.03	.23**	-.30***	.32***	-.59***	.24**	.41***	.43***	.49***
RG3	.23**	-.06	.28***	-.37***	.29***	-.49***	.14	.34***	.37***	.36***
RG5	.25**	-.15	.29***	-.39***	.35***	-.51***	.22**	.42***	.40***	.44***
RG7	.16	-.03	.17*	-.44***	.26**	-.58***	.03	.39***	.44***	.34***
RG10	.11	.01	.16	-.30***	.24**	-.49***	.22**	.29***	.33***	.40***
LG3	.18	-.08	.25**	-.25**	.22**	-.41***	.09	.35***	.24**	.25**
LG5	.28**	-.12	.29***	-.35***	.26**	-.38***	.23**	.39***	.31***	.38***
LG7	.19*	-.08	.19*	-.38***	.20*	-.42***	-.02	.40***	.41***	.28**
LG10	.20*	-.07	.23**	-.24**	.31***	-.50***	.21*	.42***	.40***	.44***
MG3	.22**	-.19*	.29***	-.35***	.31***	-.39***	.16	.37***	.25**	.30***
MG5	.29***	-.18*	.35***	-.46***	.32***	-.38***	.31***	.39***	.35***	.46***
MG7	.16	-.01	.20*	-.36***	.15	-.49***	-.03	.39***	.45***	.32***
MG10	.14	-.03	.22*	-.37***	.31***	-.63***	.25**	.38***	.40***	.46***

* p < .05 **p < .01 ***p < .001

CG3, 5, 7, 10 = Composite Achievement Grades 3, 5, 7, 10
 RG3, 5, 7, 10 = Reading Achievement Grades 3, 5, 7, 10
 LG3, 5, 7, 10 = Language Arts Achievement Grades 3, 5, 7, 10
 MG3, 5, 7, 10 = Mathematics Achievement Grades 3, 5, 7, 10

CE = Current Expenses
 P-TR = Pupil-Teacher Ratio
 CI = Cost for Instruction
 DR = Dropout Rate
 SIS = Percent LEA Supplement for Instructional Salaries
 ED = Percent Economically Deprived
 LFI = Local Financial Index
 AR = Attendance Rate
 APVC = Assessed Property Value Per Child
 RLS = Percent Revenue from Local Sources