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AUTHOR George, Carole A.
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ABSTRACT

Now that the State Board of Education has adopted new regulations requiring all Pennsylvania school districts to develop a strategic plan, it seems useful to describe the role of demographic information in that planning process. This Pennsylvania Educational Policy Studies (PEPS) report provides a rationale for considering information regarding key environmental factors in the district's strategic planning process. The factors considered include those representing the family environment, the community, and the possible competition from non-public schools. This paper also describes ways in which Pennsylvania's school districts vary with respect to these demographic factors, and how the latest version of PEPS PC (a user-friendly personal computer program) makes it possible for districts to describe themselves relative to other districts in the state using these key environmental indicators. Ten figures illustrate the discussion. (Contains 15 references.) (Author/SLD)

Pennsylvania Educational Policy Studies

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This is policy paper number 17 in this series

Strategic Planning: Key Environmental Indicators for Pennsylvania

by

Carole A. George

University of Pittsburgh

October, 1993

The purpose of this series of papers is to contribute to a more informed debate about critical policy issues facing Pennsylvania's public schools. This PEPS series draws upon a data base that has been established here at the University of Pittsburgh under the direction of William Cooley in cooperation with the Pennsylvania Department of Education, and with funding support from the Howard Heinz Endowment and the Pew Charitable Trusts.

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Executive Summary

Now that the State Board of Education has adopted new regulations requiring all Pennsylvania school districts to develop a strategic plan, it seemed useful to describe the role of demographic information in that planning process.

This PEPS report provides a rationale for considering information regarding key environmental factors in the district's strategic planning process. The factors considered here include those representing the family environment, the community, and the possible competition from non-public schools.

The paper also describes the ways in which Pennsylvania's school districts vary with respect to these demographic factors, and how the latest version of PEPS PC (a user-friendly personal computer program) makes it possible for districts to describe themselves relative to other districts in the state using these key environmental indicators.

Strategic Planning:
Key Environmental Indicators for Pennsylvania

Carole A. George

The Pennsylvania State Board of Education recently adopted new regulations that require all school districts in the state to develop and submit to the Department of Education a six-year strategic plan (Pennsylvania Bulletin, July 24, 1993). This strategic plan is to be developed with the active participation of representatives of the school district and the community and shall include school administrators, teachers, school directors, and students, as well as parents, business, and other community representatives. The Department calls for the plan to describe how the district intends to provide for the educational needs of its students and shall be based on both an internal and external needs analysis that will be used to determine the action plans the district will follow.

During the needs analysis segment of the strategic planning process, it is important to examine data that help to indicate the relative strengths and weaknesses of the school district. The indicators used to describe the educational quality within a school district are usually those that describe the internal status of the school district and include such measures as student achievement, pupil teacher ratios, and graduate plans (Cooley, et. al., 1992; Mecca & Adams, 1991). What strategic planners sometimes fail to examine are those indicators that are external to the school district and describe the context in which the district operates. These environmental indicators describe demographic, social, economic, and political influences on the school district (Cook, 1990; Poole, 1991).

One reason suggested for lack of use of environmental indicators is that planners prefer to concentrate on issues for which they have some control, and that they have some chance of impacting (Nebgen, 1990). However, the use of environmental data can be a crucial component of strategic planning by providing information that is helpful to understand the current status of school districts, and also to anticipate possible problems (Cook, 1990; Herman, 1989; Mecca & Adams, 1991; Nebgen, 1990; Poole, 1991). This paper will address key environmental factors that can have implications for district level planning and decision making and look at these indicators as they are distributed across Pennsylvania's 500 operating school districts. Because the value of an indicator for a single school district gains greater significance when considered in relation to the values of the other districts in the state, the state distributions can provide the larger context in which schools operate adding greater meaning to these data (Davis, 1974).

The Pennsylvania Educational Policy Studies project (PEPS) has recently merged the 1990 U.S. Census data with their extensive PA state database (data derived from the Pennsylvania Department of Education files).[1] These data are descriptive of the school districts and the communities in which they operate. The database provides social and demographic information useful for examining family and community environmental issues that can influence the way districts function. More specifically, these indicators will describe how Pennsylvania school districts vary with respect to their environmental influences on student performance, district funding, and competition from nonpublic schools.

Family environment. The environment in which students grow and develop outside the school can influence student achievement, for example, students' attitudes and motivation towards schooling are influenced by their home and family, the emotional and learning support they receive, and the kinds of role models they have (Mauriel, 1989). Thus, social and demographic information that describe students' environment outside school, when correlated with factors such as educational achievement, and when thoughtfully interpreted, can be useful for needs assessment and program planning (Witkin, 1989).

Cooley (1993) used demographic data to create indicators that describe the difficulty of the educational task and examined these indicators as they relate to student performance. These census derived indicators describe the district in which children live and include (a) the education level of the adults in the district, (percent that did not graduate from high school), (b) the percent of school age children living in poverty, and (c) the percent of single parent homes. Cooley reports that "as these percentages increase in a school district, the lower will be the average performance of all children in the district on a common test administered to all districts" (p. 4). This is not meant to indicate that all children from poor families will perform poorly in school, for many examples can be found of students performing well in schools in poor communities. These indicators, though, can alert the planning team of the possibility of problems associated with learning and the necessity for planning strategies to prepare for them. The way these three indicators are distributed across all PA school districts is illustrated in the following figures and can be

helpful in understanding how PA school districts vary with respect to the difficulty of the educational task.

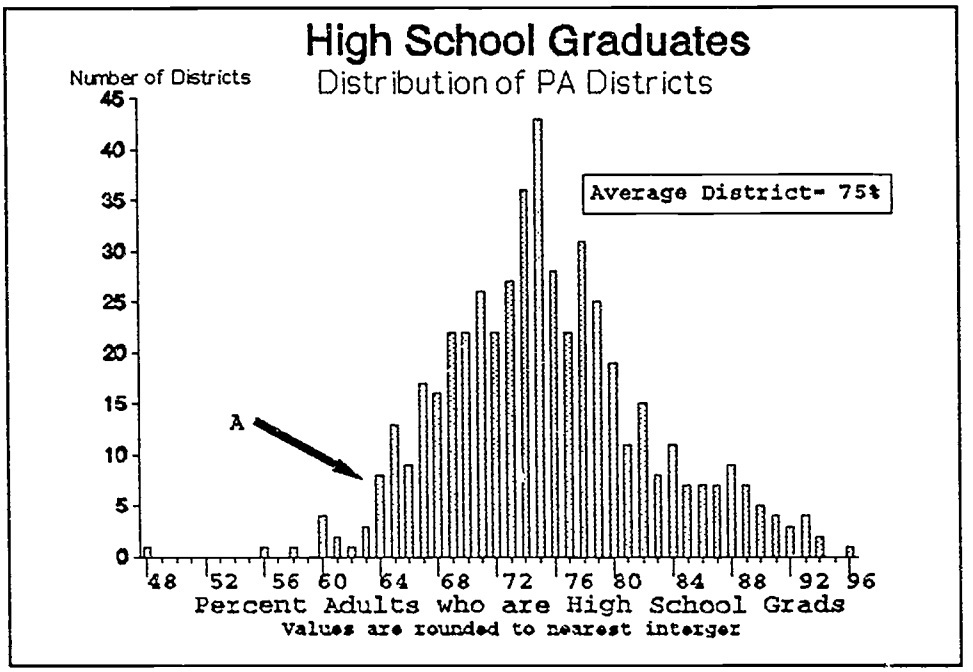

Figure 1

Figure 1, High School Graduates, shows how much districts vary in terms of the education level of the adults who live in the communities served by the district. We use percent of the adults who are high school graduates as an indicator of education level. Each point on the vertical axis represents the number of school districts. Each point on the horizontal axis represents the percent of the district's adult population who have graduated from high school. Values have been rounded to the nearest integer. For example, Point A, indicated by the arrow, shows us that eight districts have about 64% (the interval 63.5% to 64.4%) of their adults who are high school grads.

What is at first noticeable in this figure is the wide variation among districts. While most of the districts cluster around the average district where 75% of the adults are high school graduates, one district has as few as 48%.

of their adults with a high school diploma. In over 30 PA school districts, fewer than two-thirds of adults have a high school diploma. With respect to education level, these districts will be quite different than the 14 districts where more than 90% of the adults have a high school diploma.

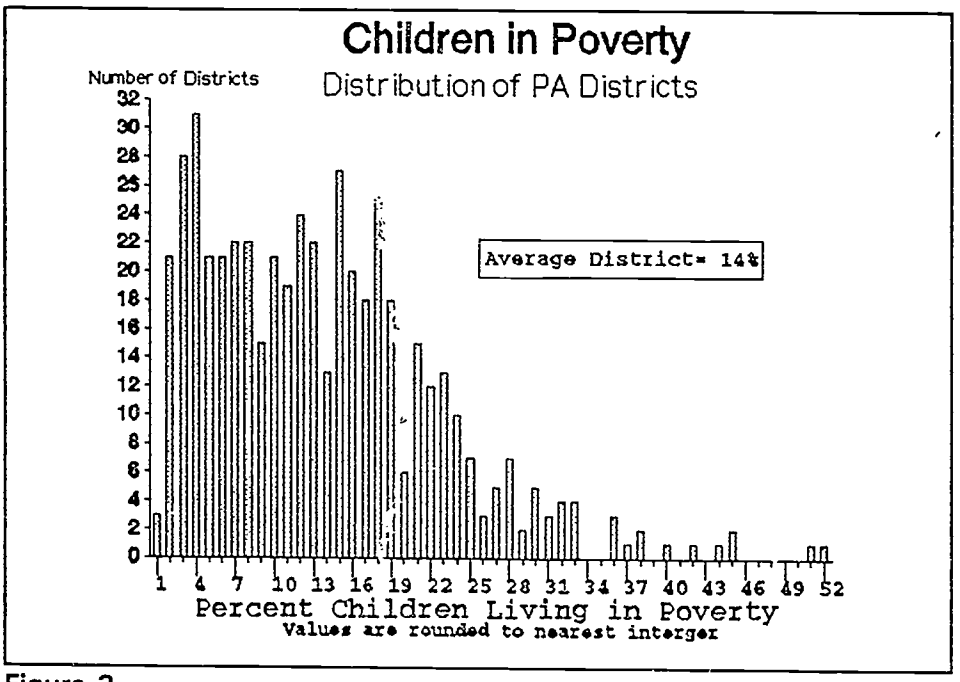

Figure 2

Also related to student performance and descriptive of family environment are high proportions of children who are poor and children from single-parent families. These are represented in Figures 2 and 3. In Figure 2, Children in Poverty, we see that the difference is extremes is clearly evidenced. It shows that some districts have about 1% of their children living in poverty families (as defined by the U.S. Census, based on income in 1989 for a family of four the poverty level was $12,674) while other districts have over one-half of their school-age children living in poverty.

Notice that in both Figures 2 and 3, the districts trail off at the upper end of the distribution. These represent the districts with high proportions of

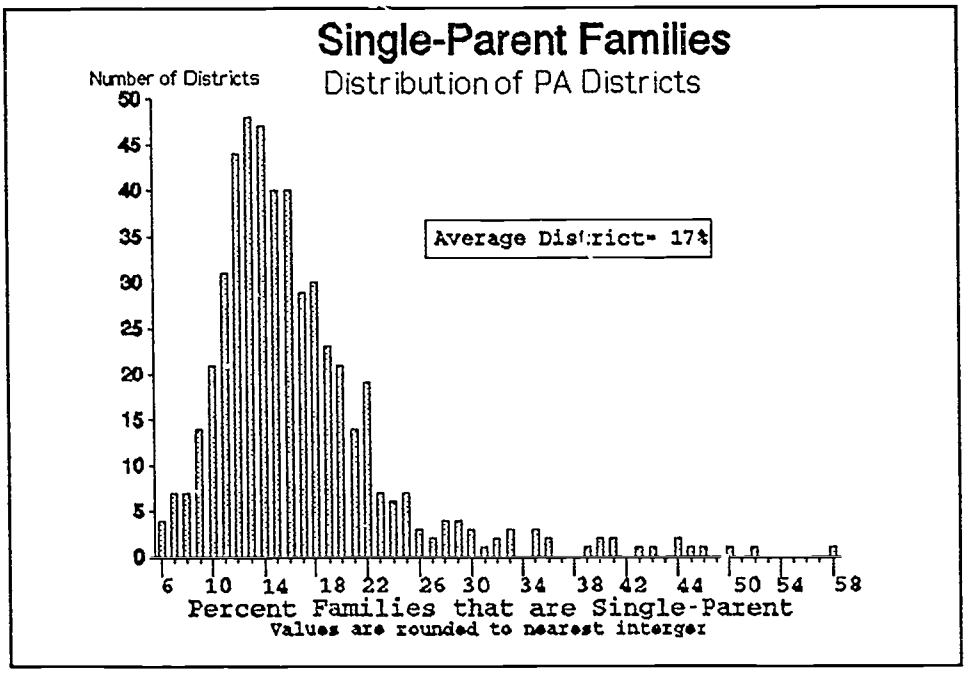

Figure 3

poor children or families with single-parent homes. As shown in Figure 3, Single-Parent Families, in 19 school districts more than one-third of their families with children are single-parent families.

Also note the wide range between the extremes. In Figure 3, we see that some districts have as few as 6% single-parent families, while others have over 50%, more than half of the families in the district are single-parent homes. Consider, also, that many of the districts with high proportions of poor children have high proportions of single-parent families (Cooley, 1993). We are not suggesting that all children who are poor or from single-parent homes will necessarily do poorly in school. But the difficulty of the educational task increases when schools or school districts have large numbers of such children. Imagine how different the educational task and therefore the planning decisions must be for those districts at the two ends of these distributions. For strategic

planning to be effective, understanding the family influences on student performance must be a part of the planning process.

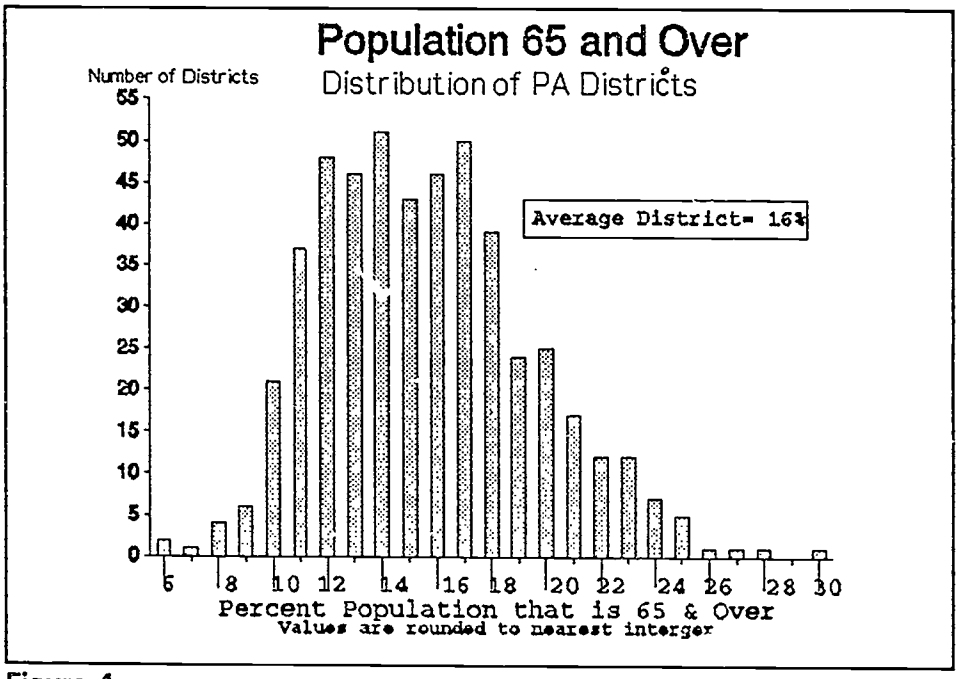

Figure 4

Community environment. The communities that school districts serve also vary considerably in their demographic characteristics. These differences are important considerations because people in communities can influence the kind and amount of support schools receive and impact the amount of funding available. A concern of all district administrators is the amount of local, state, and federal funding that is available. Funding problems can force staff, program, and materials limitations; impact building maintenance and improvement plans; and affect class sizes (Cook, 1990). Learning more about the community can be helpful for district planners to understand and anticipate funding problems. We use the school district's population relative to age, employment rates, and income levels as indicators that describe the demographic characteristics of the district's communities.

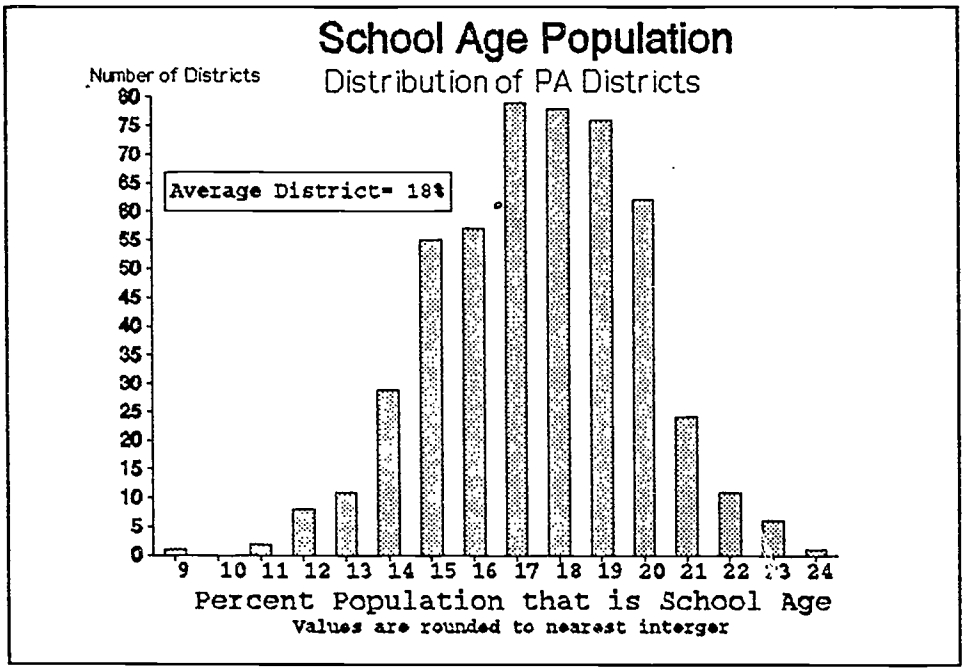

Figure 5

Figures 4 and 5 show how the school district populations vary across PA districts with respect to the age of the district's population. These differences not only affect the amount of funding available but also the degree to which those served will support funding decisions. Looking at Figure 4, Population 65 and Over, we can see that over 50 school districts are serving populations where more than one-fifth are senior citizens. Compare these with the 13 districts that have populations with less than one-tenth seniors. Consider also that many of these same districts will have smaller proportions of school-age children. As shown in Figure 5, School Age Population, in over 40 districts more than one-fifth of the population are children of school age, between 5 and 17.

Another way to look at the school-age population is to examine the percentage of the households that are families with children under 18. Figure 6, Families With Children, shows how this is distributed across PA school

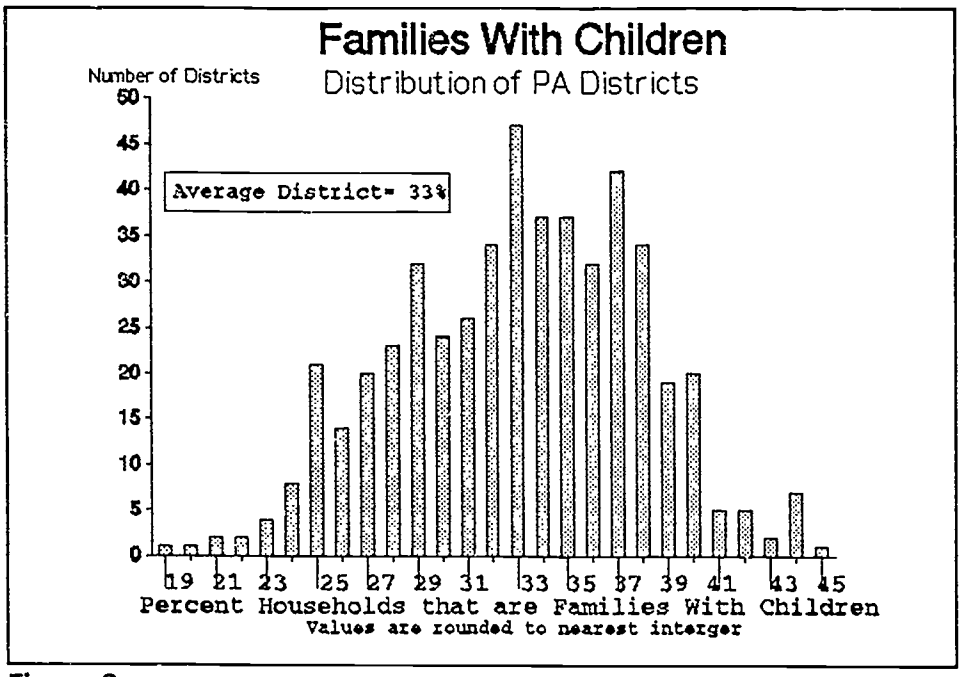

Figure 6

districts. Again, this varies considerably among school districts. At one extreme we see a district where about 45% of the households are families with children, compared with the other extreme with about 19%. In 20 school districts over 40% of the households are families that have children. These families are the adults who have the strongest interest in the school system because they are directly served by the schools.

How can the age of the district's population impact school districts and their planning decisions? Cook (1990) lists some possible considerations for districts with greater proportions of seniors: (a) increased demand for social services, (b) stronger competition for tax dollars, (c) increased resistance to tax increases for education, and (d) potential for alienation between those directly served by the schools and the seniors. Families of school-age children often place a higher value on educational services while the senior citizens, dependent on fixed incomes, are more reluctant to support increased taxes.

These differences can sometimes lead to a feeling of alienation for the seniors, and polarization between the two groups within the district (Cook, 1990).

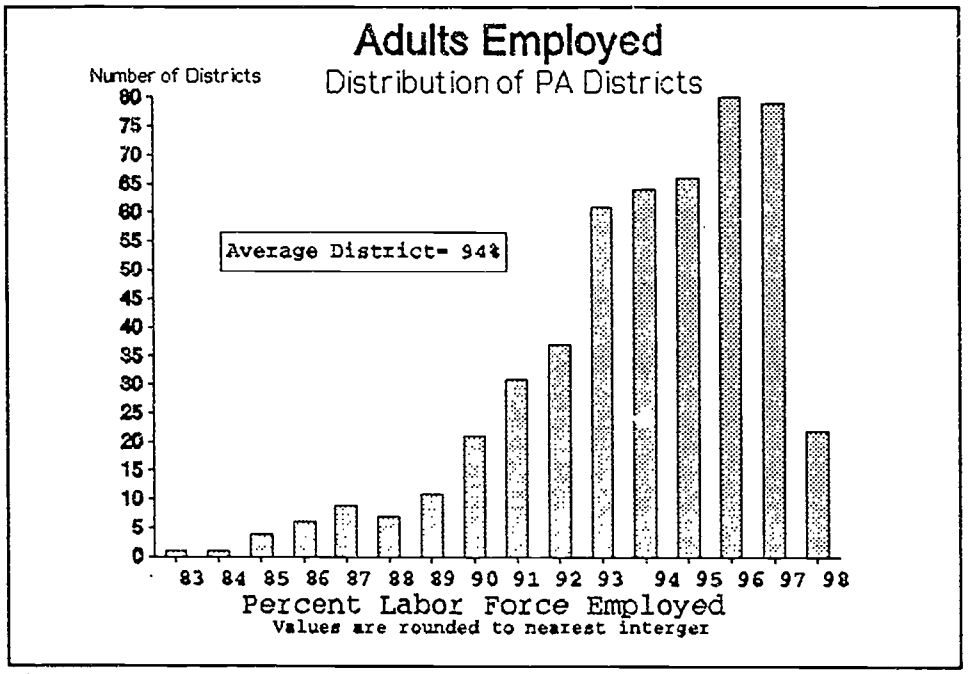

Figure 7

Additional pressures on funding can come when a district has a greater proportion of unemployed or persons dependent on public assistance. This can lead to problems obtaining local funding in addition to more competition for funding that is available, resistance to tax increases, and possibly diminished support for the public school district. We use the percent of the adult labor force in each district (persons sixteen and over who are seeking employment) that is employed to indicate employment status. Notice, in Figure 7, Adults Employed, how this distribution trails off at the lower end. These are the districts with lower proportions of employed adults. For some districts that represents less than 85% who are employed or about 15% unemployment. Compare that with those districts at the upper end of the distribution. In Figure

7 we can see that over 20 districts have about 98% of their adults who are employed.

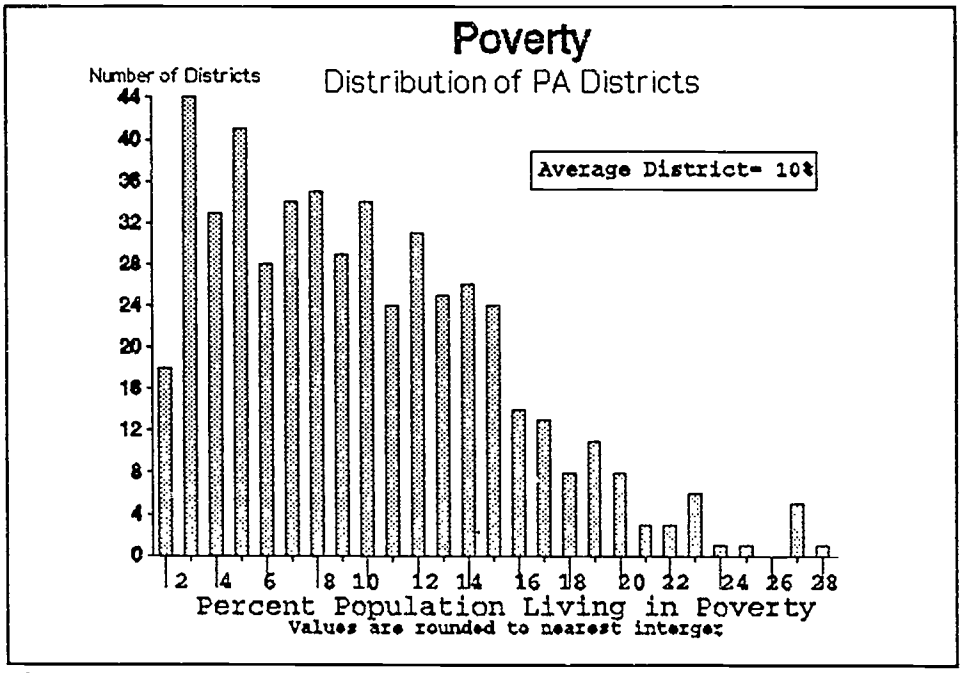

Figure 8

Consider also, that districts with higher proportions of unemployment often have higher proportions of people living below the poverty level. The 1990 U.S. Census defines the poverty level for a family of four as $12,674 based on income in 1989. Notice in Figure 8, Poverty, the wide variation among districts and especially between the extremes. For the 20 PA school districts that have over one-fifth of their population living in poverty, generating local revenue is considerably different than for the 18 districts that have fewer than three percent.

Also impacting the ability of the district to raise funds is the amount of revenue available in the form of personal income. Figure 9, Per Capita Income, shows personal income in the district relative to the number of persons (based on 1990 census and income data). The values in this figure represent the

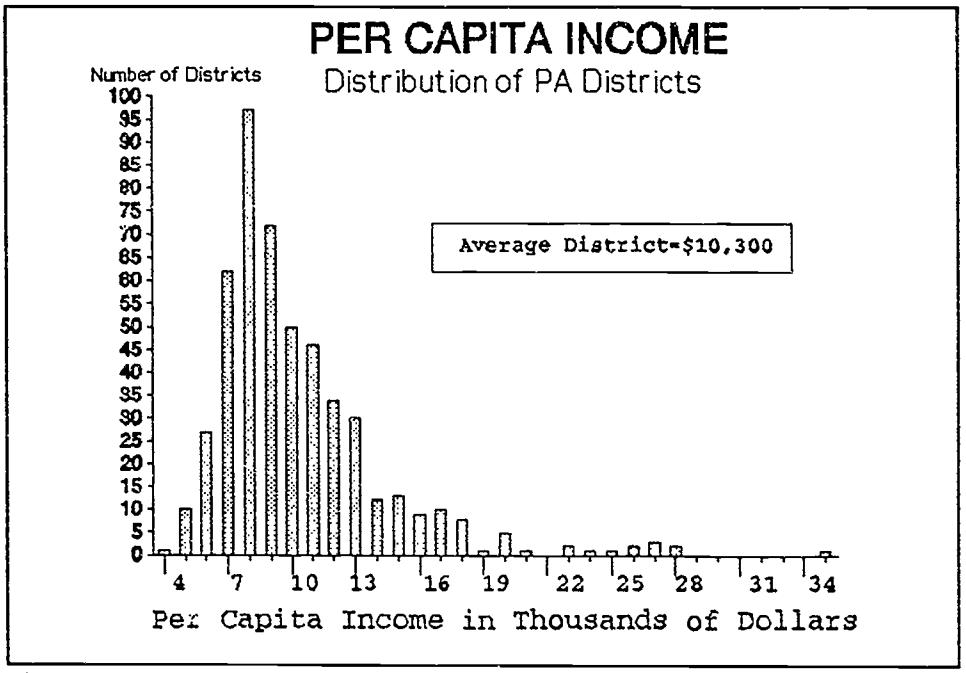

Figure 9

number of thousands of dollars available for each person if we were to take all personal income in the district and distribute it equally to each person in the district. For example, the district at the far right of this figure would have about $34,000 (rounded to the nearest thousand) for each person in the district. Compare that to the district at the lower end of the distribution with personal income that is about $4000 per person. Though the average district has about $10,000 in per capita income, about 11 school districts have less than $6,000 per person. It is not surprising that these districts (at the lower end of the distribution) will have a much more difficult time generating funds than the wealthier districts.

Nonpublic schools. Not only do school districts face competition from other sources for funding, they face competition from other schools for enrollment. The provision of education by competing organizations poses a threat to the existence of the public school district and can be the cause of

decreasing enrollment as well as the quality of education (Cook, 1990). For some districts, this threat is greater than for others. Influences on the parent's decision to select an alternate to the public school might include the availability of alternative schools, parents' ability to pay for educational services, and parents' satisfaction/dissatisfaction with public schooling.

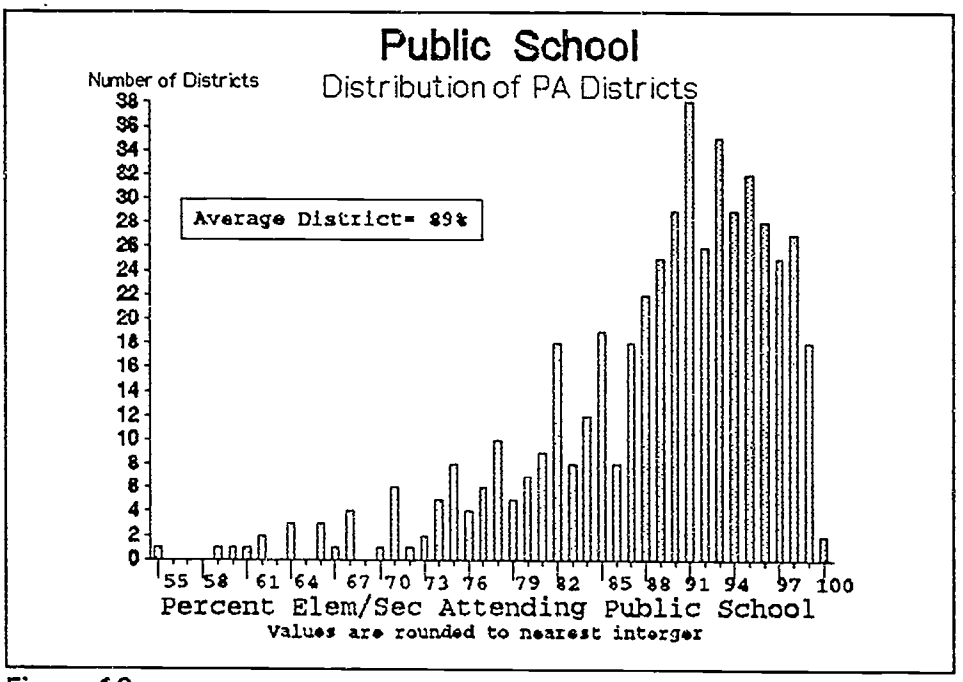

Figure 10

Figure 10, Public School, represents how the proportion of elementary and secondary students attending public schools varies across PA school districts. The area of concern in this figure is at the lower end of this distribution. These are the districts that are attracting and holding fewer students that other PA districts. Some districts attract fewer that 60% of the school-age children living in their district, while other districts have virtually no competition at all. The need to address the threat of competition is much greater for some districts. Though data describing public school enrollment cannot explain the reason for this movement away from the public school, they

can help to determine that a problem exists or estimate the extent of the problem.

Strategic Planning: Using the data. It is important to understand how these data can be useful to the strategic planning process. Before districts can begin planning to address problem situations, they must first recognize that a problem exists and understand the extent of the problem. Kaufman (1988) states "since needs provide the rational basis for identifying where an educational system should be headed, and provide the basic data for planning, a no-nonsense needs assessment is fundamental to educational success" (p. 64). The recent GAO report on Systemwide Education Reform identified the Pittsburgh School District, at that time under the direction of superintendent Richard Wallace, as one of four districts most experienced in systemwide reform and refers to their use of a needs analysis to determine the district's focus. Working with the Learning Research and Development Center at the University of Pittsburgh, Wallace used a needs assessment as the basis for planning decisions. A complete description of the Pittsburgh experience is summarized in Cooley and Bickel's, Decision-Oriented Educational Research (1986).

It is at this point in the strategic planning process, the needs assessment segment, where data collection activities can be the most useful. Wallace (1985) emphasizes the importance of information by saying "The first step in providing instructional leadership is to gain an understanding of the present state of the district. It is imperative that the superintendent analyze all relevant data at his/her disposal that might provide insights about the current functioning of schools in the district" (p. 9). Though the needs assessment

involves many and various activities, an important part of the process is the collection of "hard" data, that is "data that are derived from actual controlled, independently verifiable, observed performance and consequences" (Kaufman, 1988, p. 71). An important and sometimes overlooked part of the needs data are those data external to the district. These describe the students' and schools' environment outside school system and are helpful in determining what Kaufman refers to as "what is" and "what should be".

The figures previously described in this paper address the external elements of the district and help to provide the "what is" for the school districts. The use of these indicators provides information regarding current status and relative standing with respect to other districts. Examining a school district with respect to other similar districts is one way to determine if a problem exists and also to estimate the magnitude of the problem. For example, the Public School chart 7 demonstrates that some districts are indeed facing considerable competition for school enrollment. The problem identified with the help of this indicator is competition for school enrollment. The next step is to determine "what should be", that is what is a realistic goal for a district to meet regarding school enrollment and the percent of school-age children attending the targeted school district.

What can be done. These indicators are not meant to be conclusive, but to describe more definitively the problems that some districts will face. For those districts operating in a community that has high proportions of single parent homes, poverty, or low family education, they will more likely face a more difficult educational task. To address this problem in the planning process, these districts can consider possible actions such as early intervention

programs; after school activities; breakfast, as well as lunch, programs; home visits; meetings, programs, and courses that address parent concerns and encourage student achievement.

Districts with high proportions of senior citizens and unemployed can provide for better communication of school district problems to help alleviate problems of polarization and alienation and to communicate goals and achievements; provide services that target the population of senior citizens and unemployed; plan programs that utilize seniors such as school volunteers; and provide school facilities for use in adult education programs.

Districts facing greater threats from nonpublic schools can take a better look at the advantages of their districts versus those of the competing schools. Cook (1990) suggests examining the public school's ability to provide better educational services by considering such possibilities as the existence of diverse staff and student populations; broader range of curricular options; more and better equipment and facilities; a broader range of support services including guidance, psychological, and specialists personnel; lack of tuition; smaller class sizes; and availability of a variety of extracurricular activities including clubs and sports. By determining the public school's advantages and developing effective communication strategies, district administrators can be better prepared to combat the threat from nonpublic schools and may even reclaim students who had withdrawn to nonpublic schools.

Data source. All of this is of little use if the strategic planning team can not obtain relevant and timely data. For example, some reasons suggested for lack of use of environmental indicators include lack of relevant, demographic data that is descriptive of the district level population, and difficulty and/or

shortage of funds for obtaining these external data (Witkin, 1984). In order to address these needs and also to provide a valuable resource to support research efforts, the PEPS project is making these data available in the context of a user-friendly, microcomputer version of the extensive state database located at the University of Pittsburgh. This microcomputer database, called PEPS PC, includes district level demographic data in addition to data descriptive of students, administrators, teachers, revenues, and expenditures[2]. It is the hope that by making this information more readily available, district level strategic planning and policy deliberations will be better informed.

Conclusion. Understanding the environment in which students grow and develop can provide clues to how students will perform inside the school. Understanding the community in which the schools reside can also provide feedback useful for understanding the current status of the district as well as for future planning. The use of environmental data can be a valuable resource to support the strategic planning process.

Endnotes

1. The PEPS project would like to thank John Senier of the Pennsylvania Department of Education for his assistance in relating census data to school districts.

2. For information about PEPS PC school district database, please contact Dr. Carole George, the PEPS Project at the University of Pittsburgh's Learning Research and Development Center, 15260 or call (412) 624-7086.

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