Assessing Attitudes and Values in Pennsylvania Schools

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The ten goals of Pennsylvania's Educational Quality Assessment program are presented here, together with a discussion of assessment methodology and student performance.

"Measure the adequacy and efficiency of educational programs offered by the public schools of the Commonwealth." This was the charge given to the Pennsylvania Department of Education by its state legislature over a decade ago. As of 1976, more than a half-million students—representing every public school in the state—have been tested and "relevant, comparative data to enable directors and administrators to appraise . . . and strengthen the districts' educational programs" have been returned to the districts for self-appraisal. *What* is measured, *who* is measured, and *how* the data are analyzed are the bases for this case study.

Probably the most difficult decision to be made was: "*what* to measure." The State Board of Education addressed this problem by establishing a committee whose task was to determine the goals of education for the Commonwealth. These goals, when developed, would become the basis for the Educational Quality Assessment (EQA) program in Pennsylvania.

In November 1965, the State Board adopted the Ten Goals of Quality Education (see Table 1.), which are not unlike the Seven Cardinal Principles of Education, the Ten Imperative Needs of Youth or, in fact, most of the local school districts' educational philosophies. The committee made it clear that no single goal was more or less important than any other goal and that no ranking was implied.

The Bureau of Educational Quality Assessment was then established and given the task of developing and implementing an assessment package for these goals. The choice of instruments for some goals was unlimited (for example, Basic Skills, Goal 3), but there was little choice for others such as Coping with Change (Goal 10). Ultimately, several existing tests [1] were adopted

[1] For Goal 1, see: S. Coopersmith. *The Antecedents of Self-Esteem.* San Francisco: W. H. Freeman and Company, 1967. For Goal 6, see: J. O. Crites. *The Maturity of Vocational Attitudes in Adolescence.* Iowa City: University of Iowa, 1969.



Photo: Northern Virginia Community College.

Table 1. Pennsylvania's Ten Goals of Quality Education

1. Help every child acquire the greatest possible understanding of himself or herself and appreciation of his or her worthiness as a member of society.

2. Help every child acquire understandings and appreciation of persons belonging to other social, cultural, and ethnic groups.

3. Help every child acquire, to the fullest possible extent, mastery of the basic skills in the use of words and numbers.

4. Help every child acquire a positive attitude toward the learning process.

5. Help every child acquire the habits and attitudes associated with responsible citizenship.

6. Help every child acquire good health habits and an understanding of conditions necessary for maintaining physical and emotional well-being.

7. Give every child opportunity and encouragement to be creative in one or more fields of endeavor.

8. Help every child understand the opportunities open to him or her to prepare for a productive life and help each child to take full advantage of these opportunities.

9. Help every child to understand and appreciate as much as possible of human achievement in the natural sciences, the social sciences, and the humanities and the arts.

10. Help every child to prepare for a world of rapid change and unforeseeable demands in which continuing education throughout adult life should be a normal expectation.

while the rest of the package was developed by the Pennsylvania Department of Education.

Subscales

Every instrument consists of several subscales, which provide the operational definition for each goal.

For example, Goal 1 (Self-Esteem) has four subscales: *self-confidence, feeling of control over the environment, relationships with others,* and *self-image in school.*

Goal 2 (Understanding Others) considers others of another *race, religion, socioeconomic status, intelligence,* and the *handicapped.*

Goal 3 (Basic Skills) is an instrument that assesses verbal and mathematics skills.

Goal 4 (Interest in School) measures *attitude toward learning, attitude toward school,* and *attitude toward teachers.*

Goal 5 (Responsible Citizenship) identifies concern for the *welfare and dignity of others, respect for law and authority,* and *responsibility and integrity.*

Goal 6 (Health) looks at *personal health, safety,* and *drugs.*

Goal 7 (Creativity) concerns itself with the willingness to become actively involved in the *visual arts, performing arts, science,* and *writing.*

Goal 8 (Career Awareness) measures *voca-*

tional knowledge, attitude toward work, and *career planning.*

Goal 9 (Appreciating Human Accomplishments) considers both *valuing* and *receiving* as related to achievements of others in the arts and sciences.

Goal 10 (Preparing for Change) examines *emotional adjustment,* the *use of effective solutions,* and the *avoidance of ineffective solutions* when confronted with changing conditions.

Assessment

A stratified sampling process is presently used to assess one-third of the Commonwealth's 504 districts each year. All students in grades five, eight, and eleven are encouraged to participate. As of last fall, almost every district in the state had been assessed and had received its data.

The method of data analysis and reporting has remained relatively unchanged as the program has matured. The original mandate included the term, "relevant, comparative data," which implies some sort of normative procedure. In an attempt to meet the needs of district decision makers, two types of norming were undertaken—one using the statewide sample, the other using "similar" schools. The latter is accomplished by employing multiple regression techniques using school parameters and student socioeconomic data as variables. (See Table 2.)

Table 2. represents a page from the 20-page report generated for each school in the district being assessed. The School Score is the raw mean score for that school. School Percentile is the percentile rank, which compares that raw score with all of the schools assessed in the state. The Predicted Score Range is one standard error of the estimate above and below the predicted score for that school. The latter, in effect, indicates the raw score range of "similar" schools.

A third type of reporting involves rescoring the answer sheets using a dichotomous scoring system. For example, a Goal 4 item—"The courses in this school are extremely valuable to me"—was initially weighted as follows:

Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

The dichotomy permits a score of 1 for the two favorable responses (in this case, Strongly Agree and Agree) and 0 for the two unfavorable responses (Disagree and Strongly Disagree). Student papers (anonymous, since the unit of analysis is the school) having more 1's than 0's are considered to display a positive attitude toward a given behavior. The school report indicates the percent of local students displaying a positive attitude, along with the percent of students in the entire state displaying a similar attitude.

Table 2. Sample Page from an EQA School Building Report

Goal	*Area*	*Number of Students*	*School Score* *	*School Percentile* **	*Predicted Score Range* ***
1	Self-Esteem	434	75.76	88	70.48-74.30
2	Understanding Others	422	62.07	81	58.46-62.32
3-V	Basic Skills: Verbal	430	16.09	47	15.55-17.03
3-M	Basic Skills: Math	429	17.89	37	17.58-19.27
4	Interest in School and Learning	430	48.83	3	50.74-55.46
5	Societal Responsibility	432	58.93	24	58.68-64.82
6	Health and Safety Practices	433	82.39	59	78.69-84.73
7	Creative Activities/Recognition	420	40.15	75	35.36-42.24
8-A	Career Attitude (Grade 11 only)	434	56.65	50	55.35-57.89
8-K	Career Awareness	433	15.90	46	15.32-16.92
9	Appreciating Human Accomplishments	420	61.66	54	58.13-61.98
10	Coping with Change	433	73.15	72	70.05-73.91

* Raw mean score
** Percentile rank based upon all schools in the sample
*** Predicted range of mean scores using multiple regression techniques, with school parameters and socioeconomic data as variables

Table 3. Examples of Thirty-Five Variables

Variable Name	*Mean*	*School Percentile*
Grade Enrollment	525.00	85
Percentage Attendance	93.80	58
Instructional Expenses per Average Daily Membership	579.00	16
Classroom Practices	9.12	5
Teacher Perception of Learning Atmosphere	6.62	1
Teacher Education	1.38	10
Teacher to Pupil Ratio	1:28.6	99
Teacher Experience	9.08	10
Type of Community	0.70	35

To assist schools further in program improvement, the School Report also includes the data collected for the regression (prediction) process. Examples of these 35 variables are shown in Table 3.

Results

The amount of data returned to districts is voluminous. A separate 20-page report for each school means that a district with twelve elementary schools, three junior high schools and two senior high schools, for example, will receive 17 different reports—three copies of each. School Reports are delivered personally to the school by an EQA representative, who discusses them with and interprets them for the local district administrators assembled for this purpose. In addition, the schools may request item data, which indicate the percent of their own students who are selecting each of the responses for every one of the approximately 400 items in the EQA battery.

The three most frequent remarks made by critics of the EQA program relate to validity and reliability of the instruments and the philosophy of the goals themselves.

With respect to the latter point, thousands of Pennsylvania's citizens have been surveyed in order to determine their public school priorities. The results indicate that Self-Esteem (Goal 1), Societal Responsibility (Goal 5), Interest in School and Learning (Goal 4), and Health Habits (Goal 6) consistently rank above Basic Skills (Goal 3). Goals 1 and 5 are most frequently ranked first. Doubts about reliability and validity take the form of statements such as, "The students lied to make the school look bad," or, "They answered the items in a random fashion." However, test-retest reliabilities averaging .77 and internal consistency figures of about .89—combined with validity established by a wide variety of studies—refute such accusations.

Certain of the item data can be very helpful in improving school programs. For example, overall, about 40 percent of the eleventh graders assessed feel that too much time is wasted during the school day (Goal 4), but as many as three out of four students in some schools feel too much time is wasted. Three-fourths of the students indicate that there is not enough variety in the way classes are taught; about half of them want a greater variety of course offerings; and one-third consider most of what is taught to be useless in today's world.

On the other hand, knowing that 35 percent of the juniors believe in working only as hard as they have to, or that 12 percent would not work if they could live comfortably on welfare, is not so easily attended to. Nor is the fact that 38 percent of the eighth graders would take their mother's headache pills without her knowledge, or that 50 percent of the eleventh graders would sneak a book out of the library. These are mean figures for the state. Local data are much more revealing.

Difficult as it may seem for schools to improve in some areas, many school boards, administrators, and teachers are exerting a considerable effort. A recent survey indicated that about half of the districts in Pennsylvania are planning new programs and that 60 percent are revising existing programs as a result of EQA. Future assessments will establish the effectiveness of these changes.



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