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# TOWARD A PATTERN LANGUAGE THEORY OF MIDDLE SCHOOL DESIGN

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*Do school design variables relate to students' academic achievement scores? The purpose of the study was to determine if 38 literature-based school design patterns were predictors of ITBS scores made by middle school students. Fourteen design factors entered the regression equation, providing a basis for an emerging pattern language theory for middle school design.*

## BACKGROUND

Winston Churchill once said, "We shape our buildings and then they shape us" (Lawler, 1970). Throughout the years of American education, history has brought forth changes in both the design and function of school facilities. American educational facilities have evolved from simply sheltering teachers and students to serving an extremely diverse set of needs. According to Taylor, Aldrich and Vlastos (1988), the facilities and learning environment "can be designed, engineered, and provisioned to serve as an additional learning tool", and consequently they help shape us.

For many years, little attention has been given to the physical environment of education. Education primarily consisted of books and people - teachers and students. School buildings were incidental to the learning process. Wherever the Athenian teacher could hold a discussion with a group of students that marked the spot of the school facility. Education was basic in those days. Frequently the school was nothing more that a teacher and a small group of students meeting on the open stairs of an ancient temple (Castaldi, 1994).

Just like changes since ancient times, emerging educational issues today will influence the architectural design of future facilities. The school of the future will be serving more people with a wider range of levels and ages, and for longer periods of time during the day, night and year (Davis & Loveless, 1981).

One emerging concept is the middle school. This reform in education has changed the way many districts address the unique needs of the middle school student. The middle school movement has been one of the largest and most comprehensive efforts in educational reform in the past 30 years.

Because, as Berliner and Biddle (1995, p. 3) declared, "Good-hearted Americans have come to believe that the public schools of their nation are in a crisis state," public schools have been subjected to various reform efforts in recent years. Recent reform movements have increased expectations of student achievement and higher standards. Higher standards most often entail test scores for students, stricter guidelines for teacher certification, student discipline and attendance. This trend has also filtered through to the international level.

Reforms in middle schools throughout the United States are in response to increasing educational standards and raising test scores (George, 1994). They include teaming teachers and students in an arrangement similar to the school within a school concept, use of flexible block of time schedules, core knowledge curriculum, and exploratory courses. These efforts are designed to increase achievement, accountability, and to ease the transition from elementary school to middle school and then from middle school to high school.

Evidence of the effects that school design elements have on student performance is unheard of in major reform efforts. Many students today are learning about topics that were never even known at the time that the facilities were designed. For instance, many students today use computers in the classroom and in computer labs. Many of these activities are in older schools that were built before the advent of the personal computer. With computers, students have access to software that manages information with great ease. Students then, in turn, use presentation software like hypermedia, Internet web pages, and desktop publishing to disseminate information to their fellow classmates, teachers, and the world.

The standards for our educational facilities, including design and construction, are not held to the same increasingly higher expectations as other parts of the educational system. In fact, a report entitled *"Wolves at the Schoolhouse Door"* highlighted the questionable state of our nation's public school infrastructure (Education Writers Association, 1989). Furthermore, in 1995 the United States General Accounting Office estimated that it would cost $112 billion to bring our school facilities up to basic safety and health standards. This figure did not even take into account design needs to improve student learning or new school construction. By 2000, this figure had risen sharply. "For schools that indicated the need to spend money to bring the school into good overall condition (n = 903 U. S. Schools), the total amount needed by all schools was estimated to be approximately $127 billion. The average dollar amount for schools needing to spend money was about $2.2 million per school" (National Center for Educational Statistics, 2000, p. 16).

## THE UNIQUE CHARACTER OF MIDDLE SCHOOL STUDENTS

The place to begin any discussion about physical environments is with the students whom the facilities will serve. Physical and psychological needs of middle school students are becoming better understood as unique. One Carnegie report described the middle grade school, the junior high, the intermediate, and the middle school as society's potentially most powerful force to recapture millions of youth who are adrift (Carnegie Council, 1989). Researchers for the National Association of Secondary School Principals (1993) have written that middle-level students are unlike any other age group, and even more importantly, the students are more unlike each other than any other age group. Middle school students are in constant motion and continually changing (Carr & Stevenson, 1993). The students are kinetic and learn by doing, which can be accomplished sitting or standing, quietly or noisily, insider or outside.

Middle school students are in transformation from childhood to adulthood. Their emotional, physical, psychological, and mental boundaries are stretched daily. The middle school student is involved in and aware of an interactive environment (Wohlwill & van Vliet, 1985). These pre-adults face a myriad of disturbances ranging from emotional, physical, and social and these disturbances are unique and frenzied. With all this kinetic energy

congregated in one mass, how can the middle school physical environment enhance and/or impede middle school programs? Are there specific design elements that support the middle school concept?

## THE ROLE OF FACILITY DESIGN

Changes can be expected in a middle school's programs during the life of the facility. Enrollments change and new types of instructional programs will be implemented. Middle school facilities must be designed to be able to meet the changing needs rather than hinder the present and future changes in education (Aughtry, 1995).

As curriculum and instruction are adapted to meet changing student needs so must the classroom space. Building flexibility into the classroom space is important and the physical environment should be responsive to individual teacher and student needs (Morriseau, 1972).

School facilities are important in implementing the middle school program; and as Alexander and George (1981) stated "... the middle school building must be organized in a manner that insures a sense of community and a personalized educational experience for each student" (p. 198). The floor plan layout reflects a generally well-defined educational program but is a design with deliberate attention to maintaining flexibility to achieve full utilization of evolving teaching concepts. Instructional space should be adaptable to cooperative teaching by virtue of direct accessibility to adjacent classrooms, central group activity space, and teacher planning areas.

Spaces of varying sizes are provided for large and small group instruction and for different degrees of privacy. Areas are provided throughout for individual learning. Integration of various subdivisions of the building, each designed to accommodate a specific program function, creates an interesting spatial variety that should, in a natural and efficient way, stimulate learning on both an individual and group level (Alexander & George, 1981).

The effective middle school concept should embrace flexible architectural arrangements that maximize learning for the student (Aughtry, 1995). Wiles and Bondi (1986) identified 13 specific areas to consider in the design of a new middle school. These areas included (1) basic instructional area; (2) science area; (3) team planning area; (4) corridors/halls; (5) restrooms; (6) media center; (7) special classrooms; (8) gymnasium/gymtorium; (9) cafeteria/cafetorium; (10) auditorium/multipurpose or assembly area; (11) guidance area; (12) administrative area; (13) commons/mall or courtyard areas. These design elements may fit into three major categories: environmental, cosmetic, and other, as outlined below.

## ENVIRONMENTAL ATTRIBUTES

### *Lighting*

Light is the most important environmental input, after food, in controlling bodily functions (Wurtman, 1975). Lights of different colors affect blood pressure, pulse, respiration rates, brain activity, and biorhythms. Full-spectrum light is critical to a child's health and development (Ott, 1973). Classrooms should utilize natural sunshine and/or full-

spectrum bulbs that simulate the light from the sun to counteract imbalances caused by inadequate exposure to light (Hughes, 1980).

Luskiech and Moss (1940) determined that lighting and its quality related positively to student test scores. Illumination was also addressed by Hawkins and Lilley (1999) in the Council of Educational Facility Planners International's Guide for School Facility Appraisal. This guide stated the need for at least 100-foot candles per classroom.

*Acoustics*

Bronzaft and McCarthy (1980) studied the effect of elevated train noise on reading ability. Standardized reading scores were affected by this extreme noise. Insulation against sound was found to be important. In a study by Cohen and Weinstein (1982), a relationship between noisy schools and students with higher blood pressure was found. Students in this environment also had less cognitive task success and a greater feeling of helplessness.

Picard and Bradley (1997) reviewed data on noise and reverberation in classrooms and indicated that poor acoustics is the prevailing condition rather than the exception in classrooms from kindergarten to high school. In fact, the poor acoustical conditions were related to that of hearing-impaired children being taught in special classrooms. Students in these typical classrooms would only recognize 66% of the words being spoken by the teacher. Poor acoustics is one of the most pervasive but insidious limitations to academic achievement in the school population, according to Prichard and Bradley.

*Climate Control*

Climate control is another environmental factor that has been the interest of some studies. Chan (1979) found that students in a school with air conditioning had higher achievement scores than those in schools without the air conditioning. In addition to that study, Nolan (1960) found that achievement dropped with higher temperatures. Thermal control is now an accepted standard for indoor learning environments.

*Density*

According to Abramson (1991), an important factor in achievement is the number of square feet per student. He advocated large media centers, dining halls, and courtyards that can serve as important meeting places for students and teachers and help establish identities for schools. He found higher achievement in schools with adequate space and further noted that if those larger spaces were used for instructional purposes that the achievement was even greater.

A high-density school influences achievement negatively. Wohlwill and Van Vliet (1985) summarized the effects of high density. "It appears as though the consequences of high density conditions that involve either too many children or too little space are: excess levels of stimulation; stress and arousal; a drain on resources available; considerable interference; reductions in desired privacy levels; and loss of control (pp. 108-109).

*Scale*

Adherence to scale is important when designing user-friendly schools . Design features that may seem strange to adults but are friendly to students are illustrated and discussed by Meek and Landfried (1995). For example, it is possible to enter a scale

appropriate school and notice, as an adult, that the door handles are too low. The handles may be too low for an adult, but may be just right for the young child.

Other aspects of scale include having windows at an appropriate height for students to view the outside. Herbert (1998) reported some reflections of alumni Crow Island School: "The light switches were at my level and the auditorium had benches, starting with little ones in front . . . everything was within my reach" (p. 70). Building to the scale of children promotes a sense of belonging.

*Overall Conditions*

In 1995, the General Accounting Office (GAO) published an important report concerning school facilities. Flexible space, including space for small and large group instruction was found lacking in many school buildings in the United States. Also, lighting, ventilation, indoor air quality, acoustics, and physical security needed improvement in a large number of schools throughout the nation. The GAO report concluded that in particular, central city and urban schools that serve high percentages of minority and poor students are not maintained or equipped to support learning in the 21st century.

## COSMETIC ATTRIBUTES

*Color*

Color has been shown to have an effect on performance, achievement, and behavior. Rice (1953) found that the use of pastel colors inside buildings increased the performance of students. Achievement was found to improve with certain combinations of colors by Ketcham (1964). The condition of the paint also made a difference in achievement. A recent coat of paint resulted in higher student achievement (Rice, 1953). Rice deduced that even though pastels enhanced achievement more so than plain white paint, some improvement would result even if the white paint were fresh. Sinofsky and Knirck (1981) found that color influences student attitudes, behaviors and learning. In fact, they stated that the most important reasons for using color effectively in learning environments are that color affects a student's attention span and the student and teacher's sense of time. Color.... "is probably one of the least considered factors when planning a facility" (Stanton, 1995, p.53).

*Aesthetics*

The aesthetics of a building can impact student achievement. How a building looks and is maintained was found to have a direct influence on learning and performance (Hathaway, 1991). Responses to a national opinion poll by Hawkins and Stack (1978) indicated that the public appeared to associate higher student achievement with the quality of the school building.

## OTHER ATTRIBUTES

*Facility Planning*

According to the Design Issues, the newsletter for the Thomas Jefferson Center for Educational Design (1998), "a good learning environment is one in which the quality of

desired learning experiences dictates the quality of the setting and not vice versa" (p. 4). Alexander (1979), emphasized that at the core of architecture, building, and planning is an age-old process by which schools are organized, planned, and designed from our own perspectives. These perspectives are partially influenced by our own memories of what schools are and what the schools should be. Additionally, Alexander et al (1977) offered a theory that deals with quality. Quality in school design is generated, not made, by ordinary actions of the people. This theory advocates group planning.

Sanoff (1994) has discussed participatory design, where the school's stakeholders, the student, the parent, the teachers, the administrators and the architect, are all key players in the educational change process. Sanoff (2000) places strong emphasis on participation of the total community in design and planning.

When considering planning of educational facilities, it is important to remember that schools and classrooms are expected to last 50 years, so they should not be designed only for today's students. It is essential to anticipate the changes in educational practice as well as the demands upon the schools (Millet & Croteau, 1998). One of the elements of planning that should be included is the development of green areas, natural and quiet areas, and play areas. In this, consideration to allowing for places for animals can provide an opportunity to teach responsibility, values, and respect for life and other behavioral concepts.

*Technology*

Technology is not an end in itself to education, although tomorrow's students must be technologically literate. Technology is an important tool in the learning process and can be utilized in various ways (Millet & Croteau, 1998). The schools of tomorrow will need to be designed with the hardware of technology, including wiring and workstations. As we move into the 21st century, there is evidence that even wiring may be replaced by P C transmitting cards. Designing environments that facilitate new processes seems clear.

*Community Integration*

Schools must do more than provide a place for a town meeting or a joint library. Communities of learners of a variety of ages with multiple learning goals will be seeking space for round the clock activities or accessibility. Flexibility of space will be a key as communities change (Millet & Croteau, 1998). School facilities can house a nature museum, a fine art theatre, a natatorium, a mock courtroom, and a range of programs that require special facilities

The campus plan correlates to such design factors as neighborhood access. It may also address design aspects relative to the ethnic, religious and cultural background of the students, the economic mix of parents, and the educational profile of the community. Attention could be given to these areas in the design of the school (Bingler, 1995; Crumpacker, 1995).

*Learning Spaces*

Prohansky and Fabian (1987) reported studies that support places for privacy in schools. For example, the open classroom is an extension of the home and neighborhood. It encourages spatial freedom where children can explore, work with manipulatives, and

participate in innovative activities. The classroom constitutes a small community or a "family" in a "house". In order to achieve the small community effect the design of the open classroom includes suites, each with classrooms, lounge space, office space for teachers, lockers, private bathrooms, window seats, terraces, hallway display cases, and small seminar rooms (Genevro, 1992). The learning space must also include places for indoor and outdoor play activities since through these activities middle school students acquire and refine social, cognitive, and physical skills (Gaunt, 1980).

In a study of general environmental preference, children preferred variety and balance among the environmental elements in the learning scenario. These elements include forest, rock and sky (Bernaldez et al., 1987).

*Movement*

When applying Alexander's (1977) pattern language theory to school design factors, special attention should be given to circulation patterns. Particularly, this involves avoiding complex structures that cause crowding and force students to become disoriented. Movement within a school is an important part of the process of learning. School design needs pathways to the outside and also indoor pathways and streets (hallways). Indoor pathways may be color coded to assist in keeping students oriented to the front, back, and other important locations within the learning environments. Pathways may tie the structures together and into the natural environment.

Taylor, Aldrich, and Vlastos (1988) have introduced what they call the "rethinking of the educational setting" (p. 2). They provided a categorization of the educational settings that students, teachers, and administrators can utilize to aid in school design and also identified four premises upon which achieving well-ordered learning rests. The first premise is that people are considered an integral part of, not apart from, the environment. The second premise is that the architectural environment can affect behavior. The next premise is that the environment can be designed, engineered, and equipped to function as a learning tool. The final premise is that the learning environment can be evaluated as a learning tool.

The categorizations offered by Taylor et al (1988) include eleven zones of the educational setting: entry, work, storage system, display and mini-museum, living things, research area and library, soft, graphic arts, teacher, technology and indoor-outdoor relationships. We have modified this set slightly for this study.

## PROBLEM

Bradley (1996), noted that people close to the field of education and furthest from the field of architecture are more concerned with providing basic operational necessities than other considerations. In contrast, those furthest from the field of education and closest to the field of architecture are less concerned with providing basic operational necessities and more concerned with applying architecture in creative ways to address issues in education. These goals need not be in opposition to one another.

Furthermore, in order for students to achieve their maximum potential, all aspects of the educational experience need to be in harmony. An assumption underlying this study was that school facilities are a key part of the educational experience. In fact, the ecological

environment of the school (the objective, perceptual context of student behavior; the real-life settings within which students behave) provided a framework for the independent variables (Baker, 1968). The ecological environment, in this study, is defined in terms of school design variables. *The research question was how do school design variables relate to middle school students' academic achievement scores?*

Achievement scores were one representative measurement of student behavior. We assumed that if design variables could be found to relate significantly to student achievement, then a pattern language theory for middle schools might be developed. Such theory would be a means to bring architecture and education closer together and also prescribe a way to allow the educational program to dictate school facilities - not vice versa. Student achievement was represented by scores students earned on the Iowa test of Basic Skills.

## THE DESIGN ASSESSMENT SCALE

From the review of literature, 38 independent variables were formulated as descriptors of the ecological environment for middle schools (design patterns). A similar design scale for elementary schools having detailed justification for the inclusive items was published by Tanner (2000). Variables were grouped into eleven zones, after the categorizations provided by Taylor, Aldrich and Vlastos (1988). Even though some variables could possibly be placed in several of the areas, they were placed in their area of dominance. The following section presents the independent variables used in this study. Each variable is followed by a semantic differential used to judge its relevance to a particular school or ecological environment.

### *Components of the Design Assessment Scale*

*Zone 1 - Entry/Movement*

1. Promenade – The main outside activity areas are clearly linked. This ideally places major activity centers at the extremes. (Not Linked < > Linked)
2. Entrance Area - A friendly space connecting the outside world to the inside world. This age appropriate space should be inviting and highly visible for students and visitors. It should evoke a welcome feeling. (Not Welcoming < > Welcoming)
1. Public Areas - Spaces that foster a *sense of community* (unity and belonging) were identified as public areas (Auditorium, Amphitheater, Media Center, Commons, and Dining Room). Inviting and comfortable settings include ample lighting. (No Sense of Community < > Strong Sense of Community)
2. Administration Centralized – Administrative offices are grouped together in a centralized area allowing for connection and convenience. The person in charge should be readily accessible. (Not centralized < > Centralized)
1. Accessibility to Adjacent Classrooms - The ease to which classes can come together in large group settings or share resources is a significant design feature. This could be accomplished through the use of interconnecting doors or collapsible walls. (Restricted < > Unrestricted)

2. Reference - The main building is an obvious point of reference among the school's buildings in which paths and buildings connect. This design feature heightens the sense of community and helps to keep the child oriented. (Obscure < > Obvious)
3. Pathways – Clearly defined areas that allow freedom of movement among structures, including covered walkways, which are partly inside and partly outside are essential to good school design. These play a vital role in the way people interact with buildings. Pathways may also connect buildings one to another so that a person can walk under the cover of arcades. Pathways, inside and outside, help to keep children oriented and minimize crowding. (Ambiguous < > Clear)
4. Adjacent to Community Areas - The school is adjacent to community areas such as parks, playgrounds, and recreation complexes. (No Areas Adjacent < > Numerous Areas Adjacent)
5. Circulation Patterns – Ample spaces that allow students to circulate in and between rooms should be part of the design. The passages should be broad and well-lit allowing for freedom of movement. This pattern is also related to crowding. (Poor < > Excellent)
6. Hallways - Passageways that allow students personal space when moving within the school are necessary. This variable is akin to pathways. (Meager Space < > Ample Space)

*Zone 2 - Work*

7. Scale - The school and its facilities are designed to the scale of the middle school student, e.g., light switches, chairs, restrooms. (Unsuitable < > Suitable)
8. Instructional Neighborhoods Within Schools – These areas include a teacher planning area, flex zones, small and large group areas, wet areas for science and art, a hearth area, and restrooms (toilets). The hearth area is also a place used for reading and quiet time. It is amenable to technology. (Inadequate < > Adequate)
9. Multifunctionality of the Facility - Multifunctionality reflects how versatile the facility is in relation to the different tasks it can accomplish. (Rigid < > Versatile)
10. Physical Education Areas – P. E. or play areas are special places where students are given the opportunity to be together, exercise, build muscles, and test new skills in supervised settings. Releasing energy is an important activity seen in these areas. (Uniformity < > Variety)
11. Activity Pockets – Spaces should be designed for small group work. (Inadequate < > Adequate)
12. Safe Place - The indoor and outdoor environments guarantee students and teachers security and comfort. Supervisable circulation patterns, security systems, safe grounds and equipment, and toilets in classrooms are important safety factors. (Safety in Question < > No Safety Concerns)

*Zone 3 - Storage Systems*

13. Storage – Spaces for teachers and students to store their personal belongings, tools, and supplies are necessary for sound school design. (None < > Ample)
14. Personal Artifacts – Places for display of items of a personal nature that relate to each student improve school design. (None < > Ample)

*Zone 4 - Display and Mini-Museums*

15. Classroom Walls - Walls are conducive for displaying students' work. (Inadequate < > Adequate)
16. Hallway Display - Hallways (walls and alcoves) are suitable for displaying student work. (Inadequate < > Adequate)

*Zone 5 - Living Things*

17. Windows – These should give the best possible views overlooking life and bring natural light into the school building. (None < > Numerous)
18. Natural Light/ Full Spectrum – Artificial light plus natural light from the outside, preferably on two sides of every room, is ideal. Natural light influences student behavior and attitudes. (No Mixture of Lighting < > Ample Mixture)
19. Green Areas – Educationally sound school design includes places outside, close to the school building, where trees, grass, or gardens may be seen, but no cars or roads are in view. (Non Existent < > Plentiful)
20. Living Views – Views of indoor and outdoor spaces (gardens, animals, fountains, mountains, people, etc.) improve school design. Views allow minds and eyes to take a break. Views should not be blocked by curtains, blinds, or other obstructions. (Inadequate < > Adequate)

*Zones 6 - Soft Areas*

21. Quiet Areas – Quiet areas are spaces where students may go to pause and refresh themselves in a quiet and supervised setting. (Inadequate < > Adequate)
22. Private Spaces for Students – Supervised private places (inside or outside) where children may go to be alone (i.e. reading area, listening area) are essential. (Inadequate < > Adequate)

*Zone 7 – Teacher Spaces*

23. Workrooms - Workrooms are near classrooms. (Far From Classrooms < > Close to Classrooms)

*Zone 8 – Technology*

24. Technology for Students – Special spaces with computers, compact discs, software, internet connections, television, and video are important for learning activities. (No Access < > Easy Access)
25. Technology for Teachers – Computers, multimedia, and Internet connections are easily accessible. Teachers have access to technology outside the media center for use in research and planning lessons. (No Access < > Easy Access)
26. Communications - Phones in classrooms, intercom, faxes, e-mail and Internet are necessary for educationally sound design. (Inadequate < > Adequate)

*Zone 9 - Indoor/Outdoor Relationships*

27. Outdoor Rooms – A partly enclosed space outdoors; enough like a room, but with the added beauties of nature defines an outdoor room. This is a room with a sense of freedom. (Lacking < > Extensive)

28. Egress - Doors allow easy access to the outside environment and learning areas. This is also a safety feature allowing for quick evacuation. (Lacking < > Extensive)

*Zone 10 - Environmental*

29. Acoustics – Internal and external noise is controlled through design. (Poor < > Excellent)
30. Climate Control - A system of climate control maintains a comfortable temperature in the classroom learning environment. (Poor < > Excellent)
31. Roof system - A leaking roof can disrupt student learning. (Leaky < > No Leaks)

*Zone 11 - Aesthetics*

32. Paint - The quality and color of the paint in the halls and classrooms influence behavior. The walls and finishes should be visually stimulating. (Low Quality< > High Quality)
33. Variation of Ceiling Heights – A variation of heights allows for individual comfort and intimacy within the school. (No Variance < > Varying)
34. Overall Impression – A student friendly and teacher friendly learning environment provides a positive impression. This involves aspects of all positive or negative design patterns. (Negative < > Positive)

## SCORING AND RELIABILITY

All of the above variables are scored according the semantic descriptors shown following each set of statements. Scoring was accomplished on a Likert scale (The score may range from 10 =100% to 1 = 10% for each variable). If no evidence of the variable was found, that item was rated accordingly and received 0%. For example, a score of nine on variable 38 indicates a score of 90% - meaning that the overall impression is positive. On the other hand, a leaky roof throughout the school should receive 0% on variable 35.

The School Design Assessment Scale was tested for content validity by educators and architects (Tanner, 1999). Fifteen educators experienced and trained in school planning and design participated in a pilot study in the summer or 1999. The test-retest reliability coefficient was found to be .82 (Tanner, 1999).

## PROCEDURES

The population of this study consisted of 50 middle schools located in 14 contiguous counties in central Georgia, U. S. A. The counties were chosen because of their geographic location and their contiguity. Information on the schools and their ITBS scores were obtained from the 1997-1998 Georgia Public Education Report Card, published by the Georgia Department of Education.

The initial phase was the selection of a sample based upon composite ITBS scores. Before selecting a sample, an analysis of covariance was completed on the population of schools by using socioeconomic (SES) variables (the percentage of students receiving free lunch, race percentages, and teacher experience) as predictors of composite percentile ITBS scores. This was done to eliminate sampling bias. The composite percentile ITBS scores served as the dependent variable.

Four of the independent variables entered into the regression equation. They were teacher experience, percentage of White students, percentage of Black students, and percentage of students receiving free lunch. With an $R^2$ of .908, 90.8 percent of the variability in composite scores was accounted for by the four variables. The regression procedure assigned predicted composite scores (Table 1). This statistically removed the bias from independent variables.

Upon the removal of bias from the population of schools, the schools were ranked by their predicted composite ITBS scores. The top 11 and bottom 11 schools were then selected for use in the sample. A $t$ - test between the two extremes confirmed a significant difference. As expected, the top 11 predicted composite scores were significantly higher that the bottom group [Mean (top 11) = 78.91; Mean (bottom 11) = 40.28], $t(10) = 52.105$, $p < .01$; (See Table 1).

The reasoning for the bipolar sample was that if significant correlations between design scores and a wide range of high and low ITBS scores were obtained, then a sound basis for a prediction instrument could be established. Significant extremes should also add credibility to the results.

The second phase of the study involved performing site visits to each of the selected schools. Each school in the sample was visited in the spring of 1999 for the application of the design scale. The application involved a thorough walkthrough of the school facilities and its grounds. The walkthroughs required between 90 and 120 minutes for completion. Immediately upon finishing the walkthrough, the instrument was scored.

Each item for each school was judged according to the appropriate semantic descriptor. The final phase of the study involved the analysis of data on information obtained from the site appraisals.

**TABLE 1: PROFILE OF SAMPLE SCHOOLS**

| School | Enrollment | Black | White | %Free Lunch | Teacher Exp. | Composite ITBS | Predicted Composite (SES Removed) |
|---|---|---|---|---|---|---|---|
| A | 1,747 | 3.1 | 85.3 | 5.2 | 13.66 | 82 | 85.51 |
| B | 1,398 | 6.3 | 79.9 | 1.4 | 10.93 | 82 | 82.37 |
| C | 1.385 | 4.5 | 85.8 | 0.9 | 8.64 | 82 | 82.24 |
| D | 1266 | 1.4 | 91.6 | 1.1 | 15 | 85 | 81.10 |
| E | 787 | 7.6 | 86.8 | 1.9 | 14.65 | 78 | 80.59 |
| F | 931 | 9.2 | 81.7 | 5.6 | 12.86 | 84 | 78.76 |
| G | 1,002 | 4 | 93.1 | 1.3 | 13.03 | 84 | 77.72 |
| H | 845 | 14.7 | 68.3 | 10.9 | 13.77 | 75 | 76.97 |
| I | 896 | 4.7 | 88.8 | 3.2 | 11.93 | 78 | 74.97 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| J | 1,185 | 13.5 | 75.8 | 10 | 13.12 | 74 | 74.42 |
| K | 1,767 | 3.5 | 94.2 | 3.6 | 11.51 | 69 | 73.38 |
| Top 11 Mean | 1,200.82 | 6.59 | 84.66 | 4.10 | 12.65 | 79.36 | 78.91 |
| P | 497 | 75.3 | 23.9 | 82.7 | 13.02 | 32 | 32.40 |
| Q | 762 | 80.4 | 19 | 77.4 | 12.22 | 39 | 34.28 |
| R | 565 | 94.3 | 4.8 | 78.1 | 14.38 | 38 | 35.45 |
| S | 661 | 75 | 20.9 | 73.4 | 11.15 | 43 | 36.32 |
| T | 967 | 62.6 | 36.7 | 73.5 | 12.2 | 24 | 36.48 |
| U | 949 | 67.7 | 24 | 66.1 | 9.75 | 37 | 37.53 |
| V | 1096 | 45.3 | 34.9 | 56.7 | 9.93 | 44 | 44.06 |
| W | 793 | 63.9 | 34.6 | 58 | 12.13 | 38 | 44.63 |
| X | 760 | 45.7 | 52.6 | 55.1 | 13.38 | 48 | 46.81 |
| Y | 272 | 41.2 | 54.7 | 51.8 | 11.76 | 54 | 47.55 |
| Z | 953 | 30.7 | 61.7 | 37.1 | 8.56 | 44 | 47.55 |
| Bottom 11 Mean | 752.27 | 62.01 | 33.44 | 64.54 | 11.68 | 40.09 | 40.28 |
| | | | | | | | |
| Entire Sample Mean | 976.55 | 34.30 | 59.05 | 34.32 | 12.16 | 59.73 | 59.60 |

## ANALYSIS AND FINDINGS

Following the data collection phase, a Pearson's correlation analysis was completed for the 38 design variables and the composite ITBS Scores. We elected to set the alpha at the .05 level and minimize the Type I error. We wanted to minimize rejecting the Null Hypothesis when it is true. This, however, increased our chances of accepting the Null Hypothesis when it is false. Table 2 reveals the 27 design variables having significant

correlations with the composite ITBS score. They are candidates for predictors of ITBS scores.

Data refinement, the next step in the research process, involved the goal of finding design variables that were statistically significant predictors of ITBS scores. The guiding question was: Is the $R^2$ significantly different from "0"? On the basis of the adjusted $R^2$ found in Table 3 we can conclude that the 27 design variables identified above account for nearly all of the remaining variance in the composite ITBS scores in this sample. This is an extremely high multiple correlation and is a result of having accounted for most of the variance of the other variables by applying the analysis of covariance on the population of schools. That is, the SES variables, ethnicity percentages, and teacher experience were co-varied, allowing only the design variables as predictors of composite percentile ITBS scores.

**TABLE 2: Significant Correlations (Pearson's r; Alpha $\leq$ .05) With ITBS Scores**

| (#) Variable | Correlation Coefficient | Alpha Level |
|---|---|---|
| (2) Entrance Area | .42 | $p \leq .05$ |
| (3) Public Areas | .68 | $p \leq .01$ |
| (4) Administrative Offices Centralized | .51 | $p \leq .05$ |
| (9) Circulation Patterns | .50 | $p \leq .05$ |
| (12) Instructional Neighborhoods | .74 | $p \leq .01$ |
| (13) Multifunctionality | .48 | $p \leq .05$ |
| (14) Play Areas | .66 | $p \leq .01$ |
| (15) Activity Pockets | .53 | $p \leq .05$ |
| (16) Safe Place | .44 | $p \leq .05$ |
| (18) Personal Artifacts | .47 | $p \leq .05$ |
| (19) Classroom Walls | .44 | $p \leq .05$ |
| (20) Hallway Display | .47 | $p \leq .05$ |
| (21) Windows | .61 | $p \leq .01$ |
| (22) Natural Light/Full Spectrum | .59 | $p \leq .01$ |
| (23) Green Areas | .50 | $p \leq .05$ |
| (24) Living Views | .52 | $p \leq .05$ |
| (25) Quiet Areas | .48 | $p \leq .05$ |
| (26) Private Spaces | .71 | $p \leq .01$ |
| (28) Technology for Students | .51 | $p \leq .05$ |
| (29) Technology for Teachers | .61 | $p \leq .01$ |
| (30) Communications | .64 | $p \leq .01$ |
| (31) Outdoor Rooms | .65 | $p \leq .01$ |
| (32) Egress | .64 | $p \leq .01$ |
| (34) Climate Control | .72 | $p \leq .01$ |
| (35) Roof System | .55 | $p \leq .01$ |
| (36) Paint Quality | .55 | $p \leq .01$ |
| (38) Overall Impression | .82 | $p \leq .01$ |

**TABLE 3: Linear Regression of the 27 Predictor Variables**

| | |
|---|---|
| Multiple R | .99997 |
| R Square | .99995 |
| Adjusted R Square | .99944 |
| Standard Error | .50000 |

Analysis of Variance

| | DF | Sum of Squares | Mean Square |
|---|---|---|---|
| Regression | 19 | 9375.86364 | 493.46651 |
| Residual | 2 | .50000 | .25000 |

F = 1973.86603 Significant F = .0005

Next, through the backward elimination process, 14 predictor variables were found (Significance level for retaining a variable = .05). The backward solution starts out with the squared multiple correlations of all independent variables with the dependent variable. The independent variables are deleted from the regression equation one at a time. This makes it possible to observe which variable adds the least $R^2$ when entered last. When the deletion of any one variable produces a meaningful or significant loss to $R^2$, the analysis is terminated (Pedhazur, 1982, p. 158). The adjusted $R^2$ of .99 was significantly different from zero ($F = 2534.29$; $p < .01$) and indicates a strong prediction equation as presented in Table 4.

While this is an unusually high $R^2$ in educational research, it may be explained by the interrelationships among the 38 variables and, as previously mentioned, the effect of the co-variants. For example, Green Areas, Living Views, and Outdoor Rooms may convey similar messages to the rater. That is, one may view all three of these variables as a positive outdoor space for learning. This set of variables may represent multicollinearity - a situation where independent variables are highly correlated (Pedhazur, 1982, p. 233). Such relationships are reasons to describe and explain school design variables in terms of a pattern language much like Alexander et al (1977) did in their classic work. School architecture is a representation of social and economic values. It is a cultural statement.

## CONCLUSIONS

Perhaps this initial work in assessing middle school design will lead to a pattern language theory for successful middle schools (defined here in terms of academic achievement). A pattern language for the successful middle school is a network. There is no one design sequence that perfectly captures the successful middle school. We will restrict this network to the findings in the prediction equation (Table 4). The successful middle school in this study was defined as one with high ITBS scores, although there are many other factors that define success, especially on the affective and behavioral levels.

In moving toward a pattern language theory for middle schools in the United States we want to emphasize the language that primarily gives shape to groups of buildings, individual buildings, and individual classrooms. "A building cannot be a human building unless it is a complex of still smaller buildings or smaller parts which manifest its own internal social facts" (Alexander et al 1977, p. 469).

Table 4

The Prediction Equation

| | |
|---|---|
| Multiple R | .99990 |
| R Square | .99980 |
| Adjusted R Square | .99941 |
| Standard Error | .51402 |

Analysis of Variance

| | DF | Sum of Squares | Mean Square |
|---|---|---|---|
| Regression | 14 | 9374.51409 | 669.60815 |
| Residual | 7 | 1.84954 | .26422 |

F = 2534.27592 Significant F = .0001

---------- Variables in the Equation ----------

| Variable | B | SE B | Beta | T | Sig T |
|---|---|---|---|---|---|
| VAR00002 | -3.915250 | .079110 | -.798872 | -49.491 | .0000 |
| VAR00003 | .841311 | .024521 | .498302 | 34.310 | .0000 |
| VAR00004 | 4.401660 | .111536 | .709794 | 39.464 | .0000 |
| VAR00009 | 4.220504 | .154198 | .670097 | 27.371 | .0000 |
| VAR00013 | -2.293052 | .206878 | -.178144 | -11.084 | .0000 |
| VAR00014 | .846677 | .047495 | .230142 | 17.827 | .0000 |
| VAR00015 | 20.003795 | .377193 | .919660 | 53.033 | .0000 |
| VAR00016 | -1.091458 | .045910 | -.513557 | -23.774 | .0000 |
| VAR00019 | 7.896192 | .321817 | .488036 | 24.536 | .0000 |
| VAR00023 | -2.442343 | .149512 | -.299791 | -16.335 | .0000 |
| VAR00025 | -4.247516 | .205526 | -.587320 | -20.667 | .0000 |
| VAR00032 | 7.832694 | .122501 | .884088 | 63.940 | .0000 |
| VAR00035 | -2.200407 | .253019 | -.189876 | -8.697 | .0001 |
| VAR00038 | -2.730469 | .216083 | -.337789 | -12.636 | .0000 |
| (Constant) | -24.587382 | 1.270738 | | -19.349 | .0000 |

---------- Variables not in the Equation ----------

| Variable | Beta In | Partial | Min Toler | T | Sig T |
|---|---|---|---|---|---|
| VAR00012 | .044471 | .627364 | .029165 | 1.973 | .0959 |
| VAR00018 | -.018657 | -.529697 | .025092 | -1.530 | .1770 |
| VAR00020 | .016293 | .215860 | .023016 | .542 | .6077 |
| VAR00021 | .029714 | .482995 | .021142 | 1.351 | .2254 |
| VAR00022 | .026033 | .588829 | .022238 | 1.784 | .1246 |
| VAR00024 | .013200 | .257703 | .017571 | .653 | .5378 |
| VAR00026 | .009921 | .217091 | .031147 | .545 | .6056 |
| VAR00028 | .010125 | .127005 | .012628 | .314 | .7644 |
| VAR00029 | -.020110 | -.359992 | .018794 | -.945 | .3811 |
| VAR00030 | -.032181 | -.513557 | .024828 | -1.466 | .1930 |
| VAR00031 | -.015916 | -.366350 | .034319 | -.964 | .3721 |
| VAR00034 | -.048435 | -.583527 | .021292 | -1.760 | .1289 |
| VAR00036 | -.049179 | -.518135 | .006560 | -1.484 | .1884 |

## TOWARDS A PATTERN LANGUAGE THEORY

Since this theory is constrained to schools having an academic emphasis[1], the pattern language for middle schools similar to those in this sample may be stated as follows:

The academically successful middle school has a friendly **Entrance Area** connecting the outside world to the inside world. This space is inviting and highly visible for students and visitors. It evokes a 'welcome' feeling. **Public Areas** of the middle school (auditorium, amphitheater, media center, commons, and dining room) foster a sense of community - a sense of unity and belonging. Students and parents can easily find the administrative offices because they are grouped together in an area allowing for connection and convenience (**Administration Centralized**). **Circulation Patterns** within the classrooms and among the learning environments are clearly defined, well lit, and allow for freedom of movement.

Various learning tasks can be easily accomplished in the academically successful middle school because its design is not rigid. This school is **Multifunctional. Physical Education Areas** offer students a variety of special places to develop and test new skills and release energy. Small group work may be accomplished in adequate and supervisable **Activity Pockets** within classrooms and outdoor learning areas. The indoor and outdoor environments guarantee students and teachers secure, comfortable **Safe Places** to teach and learn. Bathrooms (toilets) are located inside the classrooms, the circulation patterns are supervisable, and security systems are ample. **Classroom Walls** are conducive to displaying students' work.

Outside spaces of the successful academic middle school include **Green Areas** where views of trees, grass, and gardens are plentiful from classrooms and other areas of the school. Supervisable **Quiet Areas** are found where students may pause and refresh in a quiet inside or outside setting. There are extensive exit doors to the outside environment and learning areas (**Egress**). The **Roof System** does not leak and interfere with teaching and learning and the overall functioning of the school.

Involving all aspects of school design, the **Overall Impression** of the successful academic middle school is that "learning environments are student and teacher friendly." The successful academic middle school is a superior facility and gives a positive impression in light of the 38 design variables addressed in the study.

## CONCLUDING REMARKS

Developing a pattern language theory for school design is a bold undertaking given the flexibility we see in school administration and management in the United States. It is our belief, however, that such a taxonomy will evolve. We hope this study encourages more research on the ecological environment of schools. School architecture is a significant variable in student learning and must be treated as such.

## REFERENCES


Abramson, P. (1991), "Making the Grade", *Architectural Review*, Vol. 29 No. 4, pp. 91-93.

Alexander, C., Ishiwaka, S. & Silverstein, M. (1977), *A pattern Language*, Oxford University Press, New York, NY.

Alexander, C. (1979), *The timeless way of building*, Oxford University Press, New York, NY.

Alexander, W. M., & Geoerge, P. S. (1981), (1981). *The exemplary middle school*, Holt, Rinehart, and Winston, Fort Worth, TX.

Aughtry, G. M. (1995), "A study of design features in fifteen selected North Carolina middle schools", Dissertations Abstracts International, 57(02A), 0519. (University Microfilms No. AAI-9616183)

Baker, R. G. (1968), *Ecological Psychology*, Stanford University Press, Stanford, CA.

Berliner, D. C., and Biddle, B. J. (1995), *The manufactured crisis: Myths, fraud, and attack on America's public schools*, Addison Wesley, New York.

Bernaldez, F. G., Gallardo, D., & Abello, R. P. (1987), "Children's landscape preferences: from rejection to attraction", *Journal of Environmental Psychology*, Vol.No.3,pp.169-176.

Bingler, S. (1995). "Place as a form of knowledge", In Meek, A. (Ed.) *Designing Places for Learning*, Association for Supervision and Curriculum Development, Alexandria, VA, pp. 23-30.

Bradley, W. S. (1996), " Perceptions about the role of architecture in education", Unpublished doctoral dissertation, The University of Virginia, Charlottesville.

Bronzaft, A. L., & McCarthy, D. P. (1980), "The effect of elevated train noise on reading ability", *Environment and Behavior*, Vol. 29, No. 7, pp. 517-527.

Carnegie Council. (1989), *Turning Points: Preparing American youth for the 21st Century*, Carnegie Council on Adolescent Development, Washington D.C.

Carr, J., & Stevenson, C. (Eds.) (1993), *Integrated Studies in the Middle Grades: Dancing Through Walls*, Teachers College Press, New York, NY.

Castaldi, B. (1994), *Educational facilities: Planning, Modernization and Management* (4th ed.), Allyn and Bacon, Boston.

Chan, T. C. (1979). "The impact of school building age on the academic achievement of eighth grade pupils from the public schools in the state of Georgia", Unpublished doctoral dissertation, The University of Georgia, Athens.

Cohen, S., & Weinstein, N. (1982). "Non-auditory effects of noise on behavior and health", *Journal of Social Issues*, Vol. 37, No. 1, pp. 36-70.

Crumpacker, S. S. (1995). "Using cultural information to create schools that work", In Meek, A. (Ed.) *Designing places for Learning*, Association for Supervision and Curriculum Development, Alexandria, VA, pp. 31-42.

Davis, J., & Loveless, E. E. (1981), *The Administrator and Educational Facilities*, University Press of America, Lanham, New York, NY.

Education Writers Association (1989), "Wolves at the schoolhouse door: An investigation of the condition of public school buildings", AASA, Washington, D.C.

Gaunt, L. (1980), "Can children play at home?", In P. F. Wilkinson (Ed.), *Innovation in Play Environments*, Croom Helm, London, pp. 36-51.

General Accounting Office. (1995), *School Facilities: America's Schools not Designed or Equipped for the 21st Century* (GAO/HEHS-95-61), April, USGAO, Washington, D. C.

# DOES IT FIT? STRATEGIC PLANNING AT AN URBAN HIGH SCHOOL

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*Strategic planning is a near omnipresent phenomenon that seemingly every school system claims to utilize, often with great fanfare and pageantry. The key premise of this study asserts that strategic planning functions to advance agents' interests within an educational organization as much as it does to serve as a rational model for organizational diagnosis and change. To the extent this premise is valid, certain outcomes of the strategic planning process may be anticipated; this research attempts to document and analyze those outcomes in one urban school district.*

## INTRODUCTION

Although strategic planning has become a standard, almost universal management practice seen in school districts across the country, the development of the tools and procedures supporting strategic planning has its roots in the private sector (Bryson & Roering, 1987). Strategic planning as a general concept involves situational assessment, strategic issue identification, and strategy development and deployment involving the following steps: (a) environmental understanding, (b) organizational goal definition, (c) option identification, (d) decision making, (e) implementing, and (f) performance evaluation (Morrison, Renfro, & Boucherl, 1983 as cited in Sybouts, 1992).

This article presents a case study exploration of the strategic planning process followed at one inner-city high school. The study examines the various components, functions, and problems involved in one strategic planning cycle, carried out as part of a larger school improvement planning initiative, piloted in a major urban school system in the southern United States. Importantly, the strategic planning initiative described here bore the heavy influence, of the corporate world as it was developed with the considerable involvement of significant players from within the business community.

A qualitative methodology emphasizing participant-observation was employed for the collection of data related to school-level involvement in this system-wide strategic planning initiative. Data were drawn from field notes and documentation prepared in conjunction with the various strategic planning sessions for which the author served as a facilitator. Finally, the article closes with a discussion of certain themes which emerge from the study; in broad terms, I argue that the strategic planning models used in business and industry have considerable limitations and must be carefully adapted, and not just adopted, for use by school personnel.

Strategic planning is a near omnipresent phenomenon that seemingly every school system claims to utilize, often with great fanfare and pageantry. The key premise of this study asserts that strategic planning functions to advance agents' interests within an educational organization as much as it does to serve as a rational model for organizational diagnosis and change. To the extent this premise is valid, certain outcomes of the strategic planning process may be anticipated; this research attempts to document and analyze those outcomes in one urban school district.

## PROCEDURE

The author served in the role of a participant-observer to conduct the research on which this account is based. I served as the school improvement team facilitator for a four-day strategic planning session at Northland High School--a comprehensive (grades 7 - 12) high school in the Martin City School system (pseudonyms are used throughout) which serves a major urban center in the southern United States. The need for a strategic planning model to be implemented in Martin City Schools emerged from a district-wide reorganization, undertaken by its new superintendent that emphasized decentralization and site-based management.

Subsequent to the four-day meeting, and for the remainder of the school year and following summer, I functioned as a planning liaison to Northland ostensibly to monitor and assist with the implementation of activities that grew out of the strategic planning initiative. As part of this overall process, I observed the informal life of the school in its halls, classrooms, and through meetings of various sorts.

The involvement of the author in a study such as this highlights problems of researcher bias. Inexorable tradeoffs must be made. My role as a strategic planner ensured access to the events and individuals, not to mention a wide array of documentary evidence, that could not have been gained by a researcher from outside the Martin system. At the same time, my degree of closeness to the stakeholders of Northland High School may subject the analysis to charges of bias.

An attempt was made to counter researcher bias in both the interpretation and analysis of data in two ways primarily. First, triangulation was accomplished by cross-checking data in the different forms it was presented (e.g., fieldnotes and interview notes, or fieldnotes and documents) through the use of thematic matrix analysis. Additionally, an external reviewer trained in evaluation research techniques reviewed the analysis. Alternative explanations for various findings were subsequently considered. And of course, the review process for publication holds out yet another means to examine for any evidence of bias in the research.

Data for this study included extensive fieldnotes, semistructured interviews with teachers, administrators, and corporate strategic planning trainers, as well as documentary records prepared as part of the various strategic planning sessions involving Northland High School. I also reviewed an assortment of documents related to school improvement at Northland and the school system as a whole. Fieldnotes were kept for each episode of participant observation, transcribed, then indexed by both date and topic. Documents and records were similarly indexed by topic following the same thematic rubric utilized initially for cataloguing the fieldnotes.

## THE CASE STUDY: NORTHLAND HIGH SCHOOL

Strategic planning came to be implemented at Northland High School as a key aspect of the new superintendent's district-wide reorganization of the Martin City Schools referred to earlier. Following this reorganization, all building principals were directed by the Martin superintendent to submit school improvement plans for approval. After her initial review of the plans, it became clear that the schools needed to both cultivate their planning skills and improve competencies in participatory management. The superintendent's written

feedback regarding these earlier plans saw them as too process-oriented, having little to do with improving teaching, changing roles and relationships, or altering structures.

Consequentially, the City of Martin was home to an organization known as the Martin Urban Service Center (MUSC) which was formed a few years earlier with the overall goal of increasing urban students' preparedness for, retention in, and graduation from postsecondary institutions by enlarging the students' access to enriched educational opportunities. The MUSC organization, a joint effort of the Martin City Schools and three prominent higher education institutions in the city (two public and one private), received significant grant and corporate funding. Importantly, it was governed by a large board of top executives and other players in Martin's civic, social, and business community.

As part of ongoing discussions with Martin's superintendent during the disheartening school improvement planning process, it was determined that one service that MUSC could provide to assist the superintendent would be to help the building principals with strategic planning. This request provided a good fit with the vision of MUSC, and an effort was quickly underway by the organization to identify individuals who could develop a generic strategic planning model to be piloted with five schools in an area of the city which included Northland High School.

Moreover, the focus on strategic planning served the needs of the new superintendent to ingratiate herself with the Martin corporate community. That group had historically been critical of the city's school system, especially its previous superintendent, though many of the white business leaders in fact sent their children to the dozens of private schools and academies dotting the southern city. Knowing full well the pressures this group placed on her predecessor (interestingly, the former superintendent remained in the city and later went on to a notable political career), Martin's new school leader was surely cognizant of the advantages of MUSC's involvement in school planning for cultivating the corporate elite's support early and often.

The choosing of an area of the city to pilot the strategic planning initiative did not take place by happenstance. In the year prior to the start of strategic planning, Northland High exhibited all of those demographic characteristics so frequently seen in urban high schools. Almost seventy percent of the students in the school qualified for free or reduced lunch, and a student mobility rate of just over fifty percent was the norm. Student minority enrollment totaled forty-three percent. Yet, little was available in terms of social or remedial services for the school--for instance, funding was not provided for Title I services. About four out of five enrolled students attended Northland High School on any given day (better than many of its urban counterparts across the country), but the dropout rate consistently hovered between fifty and sixty percent. The school had reached zero percent of the performance goals (i.e., only twenty percent of the accompanying standards established for it by the state education agency). Certainly, by most measures, Northland High was a school in distress.

At the time of the study, Northland High's principal was an African-American male with many years in the Martin City Schools, having come up through the ranks to his present administrative position. Though skeptical of the new superintendent, her drive for reorganization and decentralization, and now this strategic planning push to help bring that to fruition (as, will be seen, were all the principals involved), he spoke of the need to participate in the strategic planning process not from the perspective of how it might contribute to school improvement, but because those were the "marching orders" from the

central office. Proud of having been a popular teacher in the system, the principal did express a willingness to try anything that might provide help for his students at Northland.

## MODEL DEVELOPMENT

The president of the MUSC board and one board member prominent as a Martin philanthropist were integral in assembling a team of strategic planning experts to develop a planning model that could eventually be employed by Northland High School. Three individuals who were executives with significant strategic planning responsibilities representing two Fortune 500 companies headquartered in Martin, a self-employed strategic planning consultant to business and industry, and a university professor of educational administration with a background in school improvement planning (the author) comprised the team assigned to develop a strategic planning model that schools could utilize, for school improvement purposes. Additionally, the Martin City Schools assigned an administrative liaison (a former high school principal who was highly regarded in the system) to support the team's efforts and aid the flow of information between the team, MUSC staff, and the superintendent's office.

The charge for this model development group was clarified in a memo from the MUSC board president to team members: to develop a plan for schools to utilize strategic planning in developing school improvement plans that could be piloted in the five MUSC schools.

Numerous and frequent meetings of the model development team (often in the gleaming high-rise glass tower of one of the corporate headquarters), individual get-acquainted sessions with building principals at their schools, and an intense review of Martin City Schools' goals and the five schools' improvement plans marked the start of the project. These team meetings turned into concentrated, and sometimes rather vigorous seminars of the members' views of strategic planning. Little, if any, discussion of daily life in schools took place, but the intricate differences among the many commonalities of the various planning models were laboriously detailed and debated. No building principals were invited to the meetings where a strategic planning model was actually hammered out. Neither was any research base presented to support the efficacy of the various business planning models under review. Rather, the group began to adopt the mantra of one of the participating corporations: "Any significant change should be managed like a project."

In time, a strategic planning model was developed, planning activities were designed, and elaborate, state-of-the-art materials were prepared with the capable assistance of a contingent of strategic planning staff of the business corporations involved. Indeed, it was not unusual for corporate support staff to be present at the model development meetings to take care of any variety of routine tasks which needed to be accomplished. Ultimately, it was decided that each of the model development team members would serve as a strategic planning facilitator with one of the five pilot schools.

## SELLING THE MODEL

At the same time that model development was taking place in the corporate towers, the superintendent issued a letter to those principals of the pilot schools to inform them of this new initiative underway "with the commitment of the business community" and to

inform them of the impending visits of the development team members as described. The active organizational grapevine among the principals had suggested that a new planning initiative for the five schools was forthcoming, and the official notification letter from the superintendent provided merely a coda when it finally arrived.

Following the formal kickoff of the strategic planning initiative with the superintendent's letter, the five impacted principals became engaged in discussions among themselves regarding the undertaking. According to Northland's principal at the time, the building administrators were concerned that this planning enterprise wouldn't make much difference in their schools. Most agreed that this new program was, at worst, a bone being thrown to the corporate community and the social activists on the MUSC board by the superintendent and, at best, an opportunity to get some additional resources for their beleaguered schools. However, at the same time and at the superintendent's direction, changes were being discussed for the Martin City Schools' "Principal Performance Evaluation Process" and the five school administrators were unsure how any disinclinations to be involved in the strategic planning initiative would be translated in the new evaluation system. Most were fairly sure that the superintendent had a "hit list" with respect to the principals, so in the end, most hoped for the possibility of some resource improvement in their schools and decided they had better "go along to get along."

In the interim, the strategic planning model development team, through their get-acquainted sessions with the building principals, started to acquire at least a slight sense of these concerns of the administrators and, as such, directed its discussions as to how to get the requisite "buy-in" from the principals (and correspondingly, their school staffs). Indeed, development team members turned their attention to considerations of how to spin the strategic planning initiative with the principals. Meeting minutes from the corporate model development team, in fact, reflected the adding of this collateral focus:

> IDEAS/ISSUES
> • Forum for principals to vent
> • Selling [strategic planning model]
> • Co-development of planning process
> • Time management is an issue [to allow time for strategic planning]

When the corporate team, the five building principals, and Martin City Schools' superintendent ultimately came together to overview the newly minted Martin City Schools' "Pilot Strategic Planning and Deployment Process Model" (the superintendent was present for only about one-third of the meeting), the principals listened intently, asked general questions, and did not raise a voice in protest.

According to evaluation reports later prepared specifically for this project, principals left the meeting with the impression that strategic planning/school improvement teams in all five of the schools, and not just Northland, had the latitude to tailor their plans based on the corporate model to meet "whatever teaching and learning needs [their] schools have."

## DOING STRATEGIC PLANNING AT NORTHLAND HIGH SCHOOL

Pursuant to the superintendent's desire, a strategic planning team for Northland High School was caused to come together. The planning team was comprised of eight staff members from the school (seven teachers spanning all academic areas as well as the principal). No community representatives or parents had been invited by the principal to participate, but this had not been a stated requirement of the superintendent in ordering the strategic planning for Northland nor the other four Martin schools involved. In addition to the staff from Northland, interestingly, the Martin City Schools' liaison (the administrator who was earlier assigned to the model development team) was present for most planning meetings of the Northland group, as was the executive director of the sponsoring Martin Urban Service Center.

The school system provided substitute teachers for those educators involved in the strategic planning sessions while MUSC had previously agreed to cover expenses for an off-campus meeting site and lunches for everyone over the four days during which sessions were held. Given the difficulty MUSC staff had in finding available and reasonably priced meeting space, Northland's planning group was relegated to a conference room in a mansion that served as the headquarters for the Martin Junior League. The irony of this location was not lost on the inner-city educators who chuckled at the photographic portraits of the past Junior League presidents lining the grand paneled hallway of the organization's mansion. Noting that all of the past presidents were white, and that most wore a single strand of pearls for the portrait, one teacher commented, "These girls would look a little out of place at Northland, wouldn't they?"

Fieldnotes indicate that in a telling conversation with the superintendent's liaison just before the start of the first day's activity with the school team, the facilitator asked, "Is this one more hoop and just another activity, or will the schools really be able to act on what they decide?" The former high school principal, still new in his central office position, responded that the superintendent "supports what is going on." The superintendent had requested new school improvement plans that were expected to result as a product of the strategic planning activity by the end of the school term.

The Northland strategic planning group worked through the steps of the planning process as decided by the five corporate facilitators who made up the model development team in straightforward fashion over four days. In an event that would later serve as a death knell for strategic planning at Northland, considerable debate ensued among the educator-planners about whether their work should focus on what was "really needed" for school improvement at Northland, or whether they should solely concentrate on what was necessary simply to increase performance on the statewide achievement test. All agreed that not only was the state test a problem for Northland's students given their history of performance on it to date, but that the state's achievement battery would be driving more and more what, when, and how schools were to teach.

That success on the state achievement test was becoming the *raison d'etre* for all of the Martin City Schools was not something being imagined by the Northland strategic planning team. Policy language from the state education agency indicated as much. And in addition, the draft version of Martin's principal evaluation process, which had been a source of concern for the principals at the outset of the strategic planning process, based forty percent of a principal's evaluative rating on student outcomes.

In the final evaluation, however, the teachers saw a need to *first* address those wide-ranging problems which students were bringing with them to the schoolhouse door before they would ever have, any hope of increasing test scores. This prevailing attitude was quietly summed up by the principal:

> We are talking about the students at Northland . . . [w]e all get to our ends differently. There is a difference in today's reaching the end. [Our] training, staff development programs are different. We have to look at our students and see what they need. Do they understand what they need to? We need to do whatever is necessary to reach the end.

The principal was giving voice to a belief that I think many urban educators share: If a school is permitted and given resources to address its students' personal, social, emotional, *and* educational needs in its own way (and this, of course, takes a level of staff involvement that may be only rarely seen), test scores just might manage to take care of themselves in large part.

The Northland team had made a conscious decision to use the strategic planning initiative to begin a dialogue for addressing the needs of the whole student, and not just test scores. But the problem of doing what they think is right versus doing what they think others want (and is more expedient) stayed with the group.

Regardless, the strategic planning team moved forward with its agenda to address the many and sundry problems of Northland High. After the problems and strengths of the school had been fleshed out using a "Strengths-Weaknesses-Opportunities-Threats" analysis, and its mission statement was aligned with that of the Martin City Schools, the educators brainstormed approaches for dealing with Northland's social and environmental problems while building on the school's strengths by developing lists on wall charts that would become the basis for strategic goals and objectives to guide action toward school improvement.

The remaining two days spent by the Northland strategic planners were involved with operationalizing the goals through specific objectives, tactics, timelines, and success measures that were to be included in the action plans that would become the foundation for school improvement activities over the next school year. In sessions at Northland, where participants were engaged and active, teachers structured programs for mailing home progress reports, setting up remedial tutoring, and providing rewards for academic success to support an academic progress goal. To assist in meeting the need for increased student discipline--another goal--plans were made for mandated parent-teacher conferences (involving both faculty and administration) after a set number of disciplinary referrals, a dedicated classroom for in-school suspensions, community intervention strategies for at-risk students, and staff development training on gang awareness.

Another variety of program commitments and effectiveness measures to prevent teen pregnancy and promote student involvement in extracurricular activities (both intermural and intramural) supported a lifetime wellness goal, and numerous suggestions were molded into an action plan to enhance parental participation in fulfillment of that particular goal. Champions were assigned to each area and a preliminary plan for communicating the Northland strategic plan to students, staff, parents, and the community

was discussed. It appeared, at last, that a strategic plan for Northland High School had been written to finally get about the business of school improvement.

## THE END OF STRATEGIC PLANNING AT NORTHLAND

After some revisions and other details had been addressed, the comprehensive school improvement plan that was generated by the team at Northland High School was typed and submitted to the superintendent by the end of the school year as required. At the same time, the principal of Northland High School retired abruptly, having given no hint of his intentions during the strategic planning cycle or anytime thereafter.

Though Northland's planning team of teachers returned to school for the following school year in anticipation of implementing many of the aspects of the school improvement plan agreed upon the previous spring, such was not to be the case. During the early fall, the superintendent had rejected the strategic school improvement plans from all five of the schools, including Northland, involved in the initiative. Notably, their plans were strikingly criticized "for not focusing on information required by the state, most notably the [state] achievement test scores".

Based upon interviews that complemented this case, it appears that the Northland school improvement team and the superintendent had very different notions of the appropriate subject matter for strategic planning in urban schools. The superintendent, via the corporate team at the initial meeting with the principals, had earlier issued the charge to utilize strategic planning to meet the schools' "teaching and learning needs." For the superintendent, this seemed to mean bringing about that change which was necessary (e.g., new teaching strategies or instructional delivery systems or staff development) to forthrightly and directly translate into increased test scores. As much was stated in her critique of the schools' plans. And it was what the corporate community as a whole had been calling for.

The teachers and principal at Northland, of course, had instead believed it crucial to first address the physical, social, and emotional needs of their students--as manifested by their plan's efforts to deal with such things as teen pregnancy, extracurricular involvement, community intervention, and wellness--with considerably less concern for the immediate influence on students' test scores. Their conviction rested in the ideal that confronting those problems that made their students at-risk was a necessary condition or foundation for meaningful school change and improvement to occur. For them, this was at the heart of their being able to teach and for Northland's students of ever having an opportunity to learn. Only then could any "strategy" for addressing test scores be effective. The sense of discouragement was palpable as the Northland team read the superintendent's comments about the plan they *all* had decided to champion just a few months prior. Indeed, nothing more was to be done with the strategic plan for Northland High School.

A followup interview with Northland's new principal made clear that he would rewrite the school improvement plan himself (to be reviewed by the school improvement planning team, he quickly added) to comply with what the superintendent desired. As he said, there was "really nothing" in the strategic plan to help increase the school's test scores anyway and, because of that, it was of "little value." A new school improvement plan was submitted by the principal in a timely fashion with areas of concentration which precisely paralleled those in the state's assessment program. At this time as well, the Martin City

Schools implemented a systemwide "high-impact" plan to boost student scores on the state achievement test.

The strategic planners on loan from the Fortune 500 corporations quietly ceased involvement with the MUSC project. Two of the planners, in fact, received promotions and left Martin. Personnel from MUSC then worked to fill this gap as the five schools decided what to do in the wake of strategic planning's demise. The minutes from a meeting of these MUSC staffers told the story:

> The interfacing . . . with schools has been progressing, but more slowly than preferred. Emphasis on the [state test] seems to have impacted implementation of school plans and our relationships with the schools. We are in a quandary about how to become more useful and facilitative to the schools.

Comments from one MUSC facilitator in particular provided an even more compelling explanation:

> Will principals be evaluated using the [state test]? My principal does not see the need to work with the community or do many of the other MUSC activities. He has talked with other principals and learned that principals are evaluated based on [state test] scores. He feels that he should focus his attention on increasing those scores . . . my principal wants to throw out the entire strategic plan. We need to know what the policy is. The principal is willing to try things, but is now closing down.

Notwithstanding these problems, all parties indicated a desire to keep working together. In the program evaluation referred to earlier, it was reported that the "superintendent also appeared to be receptive and appreciative of the MUSC's role in school improvement." Demonstrating the role confusion surrounding the strategic planning effort at Northland, the new principal indicated his desire to have MUSC staff assist in writing grants to secure additional resources. Other grant opportunities were to be explored for the five MUSC schools, and everyone, was working hard to implement the high-impact plan prior to the next round of state achievement tests.

## THEMES FROM NORTHLAND REGARDING STRATEGIC PLANNING

The story of strategic planning at Northland High School might suggest that certain characteristics of public sector organizations in general, and schools specifically, impede the success of planned change interventions using private sector planning models. However, Robertson and Seneviratne (1995) have argued that since distinctions between the two sectors are becoming blurred, the viability of this assumption is reduced and, on the contrary, prior empirical comparisons of intervention success have found that patterns of success are similar across public and private sector organizations.

As a participant-observer in the comprehensive, year-long planning undertaking described, I would second the findings reviewed by Robertson and Senviratne to state that nothing about the functions of the planning process itself impeded the work of the school improvement team at Northland in coming to grips with the myriad problems facing their

students and their school. Rather, I would assert that the breakdown of the planning process in the Martin City Schools came as a natural result of key misunderstandings and misapplications regarding the role, character, and use of strategic planning in *any* organizational setting. Some lessons come from this:

*Entrepreneurial and communication imperatives for meeting shared interests.*

Strategic planning at the school level would seem to be most helpful for creating change in a structural environment in which there is some flexibility for the schools to be entrepreneurial in resolving the numerous problems that exist within them. However, this flexibility did not appear to be present in the Martin City Schools' organizational structure. There were difficulties when Northland chose a planning direction that was inconsistent with that of the superintendent and her sole concentration on scores on the state achievement test.

This points up a vital lesson for those who would do strategic planning at the school-site level. Once shared interests are identified within an organization, its agents must rely on communication and coordination networks to reach agreed-upon ends. Communication must take place among planning facilitators, the respective schools, the central office, and any sponsoring groups (such as MUSC in this case) regarding the parameters of the planning function *for meeting their shared interests* in each situation. All parties must be aware of the services and activities that rightly fall under the umbrella of the strategic planning initiative.

This problem, above all others, probably killed off the momentum for strategic planning that was present at Northland. In a related vein, for those seeking to impose strategic planning on schools, the role of the planning facilitator should be clarified for those school participants, as well as for the facilitator. Northland's new principal (as even did the former principal to some degree) perceived the role of the facilitator ultimately as a resource provider, rather than as someone who could assist in strategic planning for school improvement purposes.

*Technical knowledge of organizational change and schooling.*

Although it seems intuitive to suggest it, facilitators for strategic planning in schools should be knowledgeable about school systems in general and have some sense of how schools work on a day-to-day basis. In a debriefing session with all five school principals at the conclusion of the strategic planning sessions, this notion was cited as a key weakness of the corporate planning model utilized by the Martin City Schools. In essence, this problem was not a weakness of the model, but of using the corporate trainers to deliver the model. (As one amazing example, one of the corporate trainers did not realize, that high school teachers do not set their own daily schedules--he thought he could schedule a joint appointment with all of his school's planners whenever he wished, just as he did within the corporation.) From a practical standpoint, a strategic planning facilitator probably needs to know something about the organization in which planning is taking place for building credibility with those involved in the planning process.

The lack of specific, understandable technologies for organizational change or improvement in schools makes it more likely that strategic planning will mirror individual and collective interests over student outcomes. The use of the corporate trainers, who were not well-versed in even a basic knowledge of how schools operate, probably contributed to

the confusion regarding the outcomes of strategic planning in this case. Certainly, as one facilitator of the process, I received different messages from the superintendent and the Northland school improvement team about the direction that strategic planning should take. Yet, the facilitators' interests were probably not aligned with providing the superintendent with a plan to increase achievement test scores, but with working with the school improvement teams to (in the words of another facilitator) "give them what they wanted" to get a strategic plan constructed. A cadre of facilitators more knowledgeable on both the technology of organizational change *and* schooling may have, been better able to blend both interests within a strategic plan.

*Strategic versus functional planning.*

Schools, like other public organizations, operate within the volatile political environment that characterizes the fractious nature of contemporary American democracy. Competing, and often conflicting, demands emanate not just from stakeholder groups, but also from governmental agencies at the local, state, and federal levels. Because of this, strategic planning in the public sector is distorted by program guidelines, legislative requirements, and the other demands of government. As a result, planning may not be "strategic" at all, but related only to a few limited functions of the organization.

Northland initially defined school improvement broadly (e.g., including such areas as student wellness, violence, prevention, and community involvement) in an attempt to make its planning more truly strategic. Unfortunately, what the Martin City Schools wanted was not strategic planning at all, but some functional plan for increasing test scores as required by the state. This common problem, in turn, leads to "functional plans [that] often are not integrated with one another, and they typically ignore, what government ought to be doing as contrasted to what it already does" (Bryson & Einsweiler, 1987, p. 6). Strategic planning is not merely the sum of these functional parts.

*Planning linkages to policy makers.*

It is further likely that strategic planning is also hampered by the location of the school as a planning unit within the hierarchy of the overall organization. This was certainly the case with Northland. Although the superintendent's liaison was ever present to monitor the discussions of the strategic planning group, the educator-planners had no linkages to the primary policy makers (i.e., the superintendent, her cabinet, and the board of education) in the Martin City Schools. As such, the Northland staff was not privy to the full agenda of the superintendent who was under incessant pressure from the board with regard to test scores and the involvement of the corporate community in the schools. This promoted a poor plan in the eyes of the superintendent, and almost certainly caused her to think that the teachers at Northland couldn't handle the strategic planning assignment. A strategic planning exercise undertaken only by the superintendent's central office staffers might have arrived at a drastically different plan and one more attractive to the superintendent, but not necessarily a better one with regard to school change.

*New models of leadership to support strategic planning.*

Finally, it must be acknowledged that leaders, by definition, work to influence and direct the course of action for their organizations--this is no less true in schools. However, strategic planning alludes to new roles for organizational leaders. As stated previously,

strategic planning seeks to provide a fit between an organization and its internal and external environments. Logically, change efforts will then be directed at somehow affecting those internal and external dimensions of the organization. As such, the leader's role will become increasingly devoted to dealing with those restraining forces in the environment, as opposed to making the actual organizational choices as was the case in the past, to clear the path for strategic planners in guiding the direction of the organization.

There is no doubt that this organizational transformation shifts the locus of control away from traditional leaders as it involves *all* stakeholders who have a seat at the planning table. This new style of leadership is probably not unlike what is demanded by current school-based management approaches, and it will presumably be just as difficult to achieve.

## CONCLUSION

Taken together, these lessons raise serious questions regarding the wholesale application of strategic planning models to schools in general: Can strategic planning be accomplished at the school level, or only at the system level? Is the school an appropriate unit for planning of any type, and if so, what kind? Strategic planning is about the business of broad, long-term organizational change and restructuring--this may mediate toward a perspective above and beyond the school level which, especially in the case of Northland, operates more in the political and policy environment concerned with short-term results on high-stakes assessment. And when such tangible things as administrative careers, teacher transfers, and resource allocation depend upon improved test scores that are reviewed on a school-by-school basis, additional organizational leverage is applied to the detriment of strategic planning.

Yet, as schools are almost continually criticized for failing to achieve some defined set of student outcomes, there exists an ongoing tendency to respond at the school site by bringing together teachers, parents, and other representative groups for strategic planning to improve upon reaching those outcomes. This response is considered effective to the degree that "for every problem, the system has a program in place" (Persaud & Turner, 1996, p. 2). Strategic planning is thus utilized more as an instrument to win some commitment from relevant constituencies to a preordained solution, and attendance at strategic planning sessions is evidence of "success," even though no organizational problem is conquered. This exclusive focus for strategic planning can lead to a sort of means-end shift that is both common and fatal to strategic planning.

Instead, it would seem that the procedural effectiveness of any strategic planning activity at the school level must be analyzed in terms of the extent to which the *process of planning promotes effective decision making* for increased student performance. Persaud & Turner (1996), in their case study of strategic planning in two Georgia school districts, indicated that this will demand specialized processes for assessing needs and defining problems accurately. Strategic planning "fits" with school improvement only as it leads to the "development and implementation of strategies directed at promoting high expectations for student performance and enabling all children to achieve challenging academic standards" (Forster, 1996, p. 1).

But as the Northland High story indicates, it is unclear that this was really the ultimate goal driving the planning episode--rather, building political alliances or hoping for some short-term bump in test scores were more likely the desired ends of strategic planning

in the Martin City Schools. If these are the same "outcomes" that are sought by other schools, as opposed to a true restructuring of teaching and learning functions, this case suggests that engaging in some pretense of strategic planning is probably not the best way to achieve them.

Strategic planning may instead play a vital role in helping to answer large, broad, and fundamental questions relating to how we, as Sergiovanni (1992) put it, "transform schools from ordinary organizations into learning communities" (p. 29). Strategic planning is *not* necessary to create a stopgap increase in student test scores. Certainly, the high-impact plan instituted by the Martin City Schools following the demise of the planning initiative, or any other instrumental plan for that matter, can do that. Northland High School had not yet figured out that it was being asked to attend to short-term demands instead of true, long-term organizational change. Of course, schools and corporations are no different in this sense, and even the best strategic planning model may only have so much value in either setting.

More research must be undertaken to consider the experience of school practitioners and planners who have attempted strategic planning within a variety of environmental contexts. As one examines what is going on in schools on a case study basis, there is a sense that a great many activities are taking place in the name of strategic planning with varying effects. There must be a better understanding of these practices and their impact before the discussion of the benefits and disadvantages of strategic planning in schools can be significantly advanced. Because schools are dynamic organizations, this analysis must be ongoing.

## REFERENCES

Bryson, J. M., & Einsweiler, R. C. (1987). Strategic planning. Journal of the American Planning Association, 53, 6-8.

Bryson, J. M., & Roering, W. D. (1987). Applying private-sector strategic planning in the public sector. Journal of the American Planning Association. 53, 9-22.

Forster, E M. (1996, September). Strategic planning for urban districts: A collaborative model for systemic reform and educational improvement. Paper presented at the annual meeting of the International Society for Educational Planning, New Orleans, LA.

Persaud, G., & Turner, T. (1996, September). Evaluation of strategic planning in school bureaucracies using a high definition planning approach: A case study. Paper presented at the annual meeting of the International Society for Educational Planning, New Orleans, LA.

Robertson, P. J., & Seneviratne, S. J. (1995). Outcomes of planned organizational change in the public sector: A meta-analytic comparison to the private sector. Public Administration Review, 55, 547-557.

Sergiovanni, T. J. (1992). Moral leadership: Getting to the heart of school improvement. San Francisco: Jossey-Bass.

Sybouts, W. (1992). Planning in school administration: A handbook. New York: Greenwood.

# SUCCESSFUL SCHOOL PLANNING: PARTICIPATION OF LOCAL AGENCIES

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*The purpose of this paper is to recognize all the local agencies that contribute to planning public school facilities, to propose proper timing for their involvement, and recommend strategies school districts could employ to make best use of local agencies in planning public school facilities.*

## INTRODUCTION

School facility planning has significant effect over the planning of the entire city or county (Earthman, 2000a). In planning facilities, a school district cannot be disassociated from planning considerations related to other interests in the community. Since many federal and state policies and code requirements are left to the jurisdiction of the local authorities, school districts need to work closely with many local agencies in planning school facilities. Therefore, establishing communications with other planning agencies is both expedient and beneficial for the school district (CEFP, 1991).

Not only is the public invited to participate in the planning process (Chan & Pool, 1999), but local government and non-government agencies are also involved at different levels. Local agencies include both the government agencies and non-government agencies at the city or county level that may have an interest in school facility planning. Government agencies are: the Department of Planning and Zoning, the Department of Environmental Control, the Department of Public Records, the Department of Management Information Systems, the Building Department, the Health Department, the Fire Department, the Police Department, the Department of Transportation, the Engineering Department, and the Parks and Recreation Department. Other non-government agencies involved in school facility planning are business organizations, residential development organizations, community organizations, and utility companies

## EXISTING NEEDS TO INVOLVE LOCAL AGENCIES IN SCHOOL PLANNING

Building a new school is part of a comprehensive development of public services. The planning process demands the active involvement of many local agencies to complete a school facility project successfully. There are several reasons that dictate school districts the involvement of local agencies in school facility planning:

*1. It is a legal mandate.*

Some local agencies, by law, are assigned with jurisdiction over the school facility planning process. Involving these agencies in facility planning is mandatory. For example,

the school district needs to work with the local Planning and Zoning Department which evaluates and approves potential school sites. The local Fire Department, Building Department, and Health Department need to be involved at a very early time, primarily because law mandates their approval at every stage of the school construction.

*2. It avoids duplication of effort.*

In planning school facilities, it is necessary for the school district to connect with other local agencies to coordinate the planning effort since other agencies could be planning similar projects of their own. A direct contact with other agencies can avoid any duplication of effort and possible conflicts in planning. In some cases, it may end up being a collaborative project between the school district and the local agencies.

*3. It makes best use of available resources.*

Area demographics, reports of planning studies, and information on special facilities and equipment are some of the data needed for school facility planning. One distinct advantage of working with local agencies is to make best use of their resources already in place at a minimal cost. It will surely save the school district tremendous amount of time, effort and expense in the planning process. A list of "Resource of Local Agencies" is appended.

*4. It promotes good public relations.*

By involving local agencies in planning facilities, a school district recognizes the agencies' contributions in the planning process. In return, recognized local agencies are more willing to assist the school district in its school construction projects when they see their roles and importance in school facility planning are really valued.

## THE SIX PLANNING PHASES: THE ROLES OF LOCAL PLANNING AGENCIES

Chan (1997) identified six phases of school facility planning as (a) the Preparation Phase, (b) the Programming Phase, (c) the Design Phase, (d) the Bidding and Contracting Phase, (e) the Construction Phase, and (f) the Warranty Phase. Each planning phase is characterized by its unique activities in which relevant local agencies can be involved.

*Preparation Phase*

In the Preparation Phase, school districts assess the need for facilities, acquire the source of funding, locate school sites, and select architects for school construction projects. To assess the need for facilities, school districts perform long- and short-range student enrollment forecasting. The Planning Commission, the Building Department, the Chamber of Commerce, the Health Department, the Transportation Department, residential developers, and utility companies will be most helpful in providing sufficient information for accurately forecasting student enrollment growth. In acquiring local funding for school construction projects, school districts can plan for bond referendums by analyzing economic data supplied by the Chamber of Commerce and the City or County Finance Department. In selecting future school sites, school districts can solicit input from the Planning Commission, the Records Department, the Police Department, the Fire Department, the Environmental Control Department, the Transportation Department, the Archeology

Department, the Engineering Department, residential developers, and utility companies. In most architect selection processes, school districts follow school board policies regarding the appointment of architects for school projects. Local public agencies may be referenced but are not directly involved.

*Programming Phase*

This phase of school facility planning is focused on composing a set of educational specifications to direct school building design. A committee, consisting of teachers, school administrators, parents, community leaders and business representatives, will explore educational program needs and facilities to support those needs. Parents' educational concerns will be incorporated into the school program. Business leaders will be consulted in identifying areas of competencies students are expected to achieve. Requests for community use of school facilities will also be considered at this stage. Public agencies, such as the Chamber of Commerce, Citizens' Advisory Committee, Parent Teacher Organization, and City/County Planning Commission, will be involved in this Programming Phase.

*Design Phase*

Architects and engineers are mostly involved in the activities of this phase. They will be calling assistance from the Building Department, Fire Department, Health Department, Transportation Department, Engineering Department, and Environmental Control Agency for the updates of design codes and regulations. Staff from these departments may be invited to attend design meetings to resolve potential problems and to advise on code interpretations. From time to time, architects and engineers may share initial design ideas with these departments for early approval. The complete set of final design drawings and specifications need to be presented to these departments for review and approval. In addition, residential development agencies and utility companies could be really helpful to the architects and engineers in designing adequate services to the school buildings.

*Bidding and Contracting Phase*

In bidding and contracting for school construction projects, basically, the standard state procurement code is strictly followed. The County/City Building Department and Legal Department could give valuable advice to school districts as to the exact procedures to be followed. Occasionally, when the lowest bid runs over the budget, parts of the building design may need to be revised to get better prices in rebidding procedures. In this case, the Building Department, the Fire Department, the Health Department, the Engineering Department, the Environmental Control Agency, and utility companies will be most helpful in suggesting alternative acceptable solutions.

*Construction Phase*

The school construction phase starts with the general contractor submitting licenses and construction drawings to the Building Department to apply for grading and building permits. Inspectors from the Building Department will be invited to visit the school construction sites at different stages of construction to inspect the finished work. This is to ensure high-quality construction per building codes. At this time, the utility companies will be working in cooperation with the contractor to supply services to the school building. When the construction work is complete, the Building Department, the Fire Department,

the Health Department, and the Environmental Control Agency will be invited to inspect the school building for final approval. The Building Department, on behalf of all the involved departments, will issue the Occupancy Permit upon satisfactory inspections from all departments.

*Warranty Phase*

Putting the school building to use so that the functions of different building systems can be tested marks the Warranty Phase. During the school building warranty phase, staff from the Building Department and the Fire Department may still need to inspect some of the work that was given temporary approval for school opening. At the same time, the Fire Department and the Health Department will start scheduling their routine inspections of the school building (usually two to three times per year).

## BARRIERS TO WORKING WITH LOCAL AGENCIES

There are definite advantages for a school district to work with local agencies in planning school facilities. However, by involving the local agencies, the school district needs to plan for additional time and effort in completing the building project. Because of the differences in interests and organization between the school district and other agencies, the school district may encounter the following barriers in coordinating the work:

*1. Complex roles and responsibilities of local agencies*

All public agencies are structured differently in their roles and responsibilities. School district staff members working with local agencies need to understand the complexity of the organizations and identify the contact person in each public agency. It is not unusual to find that a school district has to work with more than one public agency to secure a piece of information for planning use.

*2. Extensive coordination effort*

School districts recognize the significance of coordinating school construction projects with local agencies. However, school district planners are facing severe challenges working with multilayered jurisdictions. The process of working through different local offices to get decisions made is not easy. Often a school district must engage in extensive coordination to negotiate an agreement.

*3. Data not readily available*

One common difficulty faced by school facility planners is requesting planning data stored in the databases of other public agencies. Since each public agency has its own individual needs, data pertaining to one agency are stored and compiled in a particular format appropriate to its unique use. When the same data are retrieved to meet a school district's request, they are not usually compiled in a way that can be readily used by the school district.

*4. Orientation differences among local agencies*

A challenge to school district planners is to understand the orientation differences among the many agencies they work with. Because of the unique responsibilities of the

school system, school district planners may have a more narrow focus on community needs than that of planners in some local government agencies (Earthman, 2000b). Thus, it is important for school district planners to broaden their points of view in coordinating the work of facility planning in such a way as to promote a mutual respect for the work and responsibilities of all agencies involved.

## WORKING WITH LOCAL AGENCIES: TIPS TO SCHOOL ADMINISTRATORS

Local agencies, with their rich resources and expertise, can be very helpful to school districts in planning school facilities. School district planners need to make full use of what local agencies can offer to succeed in carrying out their duties. Differences may exist between a school district and local agencies, especially in perceptions of the directions in which its community should develop and how it should be served. However, school district staff members should work with local agencies in mutual respect and understanding to secure a long-term working relationship. The following guidelines should be considered:

- ✓ *Understanding the strengths of local agencies*
  School districts need to understand the nature of work of each agency. Each public agency must be recognized for what it can do for the school district.

- ✓ *Clarifying the school district's relationship with local agencies*
  Some agencies are advisory in capacity, whereas some have jurisdiction over certain areas of planning.

- ✓ *Coordinating activities*
  A schedule of events can be developed so that each agency knows the sequence of activities and the part it plays in the entire planning process.

- ✓ *Recognizing the contributions of local agencies*
  Building dedication ceremonies and press conferences are ideal occasions to recognize the contributions of local agencies..

- ✓ *Knowing exactly what a school district needs from local agencies*
  Local agencies may not know how they can assist a school district. The school district needs to take the leadership in working with these agencies.

- ✓ *Involving local agencies at an appropriate time*
  School districts should not take up agencies' time unnecessarily. They should involve them in the planning process at the time when they are really needed.

## CONCLUSION

A school district needs to take initiative to work with local agencies in planning school facilities. A long term positive working relationship with all the agencies needs to be well maintained. The school district needs to develop a plan to indicate how each of these agencies could be involved at different stages of the school planning process. Participation of local agencies means successful school planning.

## REFERENCES

Atlanta Regional Commission. (1988). *Atlanta Region Outlook.* Atlanta, GA: Author.

Chan, T. C. (1997). An evaluation of the participatory planning approach to school facility planning. *Educational Planning, 11*(4), 23-26.

Chan, T. C. & Pool, H. (1999, October). *Planning a new school building: Public participation.* A paper presented at the annual conference of the International Society for Educational Planning, Indianapolis, IN.

Council of Educational Facility Planners, International. (1991). *Guide for planning educational facilities.* Scottsdale, AZ: Author.

Earthman, G. I. (2000b). *Planning educational facilities for the next century.* Reston, VA: Association of School Business Officials.

Earthman, G. I. (2000a, January 31). *Comprehensive land use and planning for school buildings* (Unpublished lecture notes) Virginia Polytechnic Institute and State University, Blacksburg, VA.

## APPENDIX: RESOURCES PROVIDED BY LOCAL AGENCIES

School districts obviously cannot afford the time and expense to generate all the data needed for facility planning. Therefore, it is almost inevitable that a school district has to work with other public agencies to make best use of available resources. After all, it makes no sense to duplicate the efforts of other public agencies. Resources of other public agencies the school district could utilize include expertise in the agencies, available databases, and studies/projects completed or in progress. In return, the school district can offer educational information and expertise other agencies need. It is through this mutual exchange and understanding that public resources can best be utilized.

*Experts in special fields*

Experts are employed by each of the public agencies to perform unique tasks in their areas of specialization. They are ready to share their expertise on request of the school district. For example, specialists of the Fire Department and Building Department could interpret the code requirements and explain the needs for code compliance. Municipal planners of the local planning commission could provide their insight, regarding the development of the area in relation to school district planning. Other specialists, such as finance officers, forecasting experts, land developers, business executives, and many others, are excellent resource persons.

*Available databases*

Because of the overwhelming amount of information in the field, almost all local agencies maintain a database to meet their own requirements so that all updated available data are systematically compiled. A school district could request that certain agencies share specific information in their databases to facilitate its planning. For example, the local planning commission has data on density, growth, and demographics of the area population. The Chamber of Commerce uses its database to keep track of all the business growth and economic trends of the region. There is no limit to the sources of data the school district could use for planning by requesting permission to access some areas of the databases of other public agencies.

*Studies/projects completed or in progress*

One of the most convenient ways to gather information for school district planning is to review reports of recent studies performed by other agencies. These reports are professionally written with great insight of evaluation and analysis in specific areas. Their conclusions are fully backed up by current data included in the reports. School districts can be benefited in their planning effort by reviewing the findings of these studies. Local agencies, such as the Planning Commission, the Chamber of Commerce, and the environmental control agencies, conduct analytical studies on a timely basis (Atlanta Regional Commission, 1988). In addition, comprehensive facility studies performed by other school districts can be very useful to a school district currently planning facilities. requirements are left to the jurisdiction of the local authorities, school districts need to work closely with many local agencies in planning school facilities.

# PLANNING FOR TRACKING: SOME IMPLICATIONS FOR STUDENTS' ACADEMIC SELF-EFFICACY

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*Tracking is a managerial tool used by educators at the school site to confront the diversity of individual student needs. However, tracking is basically an act of segregation and may therefore negatively affect students' academic self-efficacy, especially when selected for the low-level track.*

*The AE of 310 10th grade students from 12 high schools is studied. Measurements are performed twice, at the beginning of the school year, before tracking and at the end of the year. Results show, as expected, that students selected to low-level and high-level tracks differ before and after tracking in their academic self-efficacy in English and math. Furthermore, the findings within groups indicate, that tracking negatively affected the academic self-efficacy of low-track in English and math, but not the academic self-efficacy of the high-track. The study concludes that the introduction of tracking in high schools should be reconsidered.*

## INTRODUCTION

In spite of extensive empirical evidence indicating negative impacts of tracking, it is still a strategy commonly used by high schools to cope with the diversity of students' individual needs.
Tracking is an act of segregation and, therefore, fosters the conduct of labeling by which students construct, among other aspects, their self image as students (Furr, 1993).

According to the social cognitive theory (Bandura, 1986) labeling is heavily determined by the context of individual experience. Therefore, tracking which structures learning circumstances may be considered a powerful source of influence on children's academic self-efficacy. Following this line of argument, the present study intends to test this assumption and to provide some empirical evidence for the impacts of high- and low-level tracks on children's academic self-efficacy.

## ACADEMIC SELF-EFFICACY

Self-efficacy refers to people's conviction about their own capability to successfully execute actions that lead to desired outcomes (Bandura, 1977, 1997). Academic self-efficacy reflects an individual's conviction about performing a given academic task at a desired level (Schunk, 1991).

During the past decade, self-efficacy beliefs have received increasing attention in educational research, primarily in the area of academic motivation (Pintrich & Schunk, 1995). Much empirical evidence has established the significance of self-efficacy as a determinant as well as moderator of behavior in academic settings, focusing on the relation among beliefs, related psychological constructs and academic performance in (Bouffard & Vezeau, 1996; Malpass & O'Neil, 1996) and across (Bandura, 1993; Zimmerman & Bandura, 1994) academic domains. Research was carried out under the assumption that academic self-efficacy helps determine how much effort students will expend on an academic activity, how long they will persevere when confronting obstacles and how resilient they will prove to be in the face of adverse situations (Pajares, 1996). This assumption was supported by evidence suggesting that students

with a strong sense of academic self-efficacy are more willingly undertake challenging tasks (Bandura & Schunk, 1981) and expend greater effort for accomplishing a given task (Salomon, 1984). They demonstrate lower levels of anxiety (Pintrich & De Groot, 1990), use more effective learning strategies (ibid.) and self-regulate better than others (Zimmerman et al., 1992).

The findings have led researchers to conclude that self-efficacy is a powerful motivation construct in academic settings (Pajares, 1996) and a strong predictor of behavior in general (Maddux et al., 1986) and of academic performance in particular (Bouffard & Vezeau, 1996; Malpass & O'Neil, 1996; Zimmerman & Bandura, 1994).

Following the assumptions inherent in Bandura's triadic reciprocality model (1986), self-efficacy is considered a personal factor. However, it is a judgment related to confidence and therefore influenced and shaped by cues and messages inherent in individuals' environment. Hence, academic self-efficacy may be viewed as a context-related construct (Zimmerman, 1995). This may be explained in considering that individuals are both products and producers of their own environment and of the social and cultural context within which they live (Pajares, 1996). Therefore, academic self-efficacy is not an absolute state of functioning, but rather varies according to the qualities of the context experienced by individuals (Zimmerman & Martinez-Pons, 1990).

This assumption has led researchers to examine the role of particularized self-efficacy beliefs and various academic contexts. Some of the studies focused on various context-related variables such as ability feedback (Schunk & Gunn, 1986), attribution feedback and reward contingencies (Schunk, 1983b; Schunk, 1982), modeling effects (Schunk, 1987) and goal setting (Schunk, 1983a). Other studies focused on the qualities of the learning settings, comparing regular schools with schools for the academically gifted (Zimmerman & Martinez-Pons, 1990), high self-efficacy students with low self-efficacy students within ability groups (Collins, 1982) or the different qualities of classroom environments (Norwich, 1994). However, although self-efficacy research has made notable contributions to the understanding of academic motivation, the practical insights of the theory for the practice of schooling have been slow (Pajeras & Miller, 1994). Therefore, it is argued that additional studies are required to discover the inter-relations between academic self-efficacy and the contextual aspects of schooling (Pajares, 1996) other than age, gender and ethnicity (Bong, 1999; Chen et al., 1996; Hackett, 1985; Hackett et al., 1992; Stipek & Gralinski, 1991), which have been studied extensively.

## CURRICULUM PLANNING AND TRACKING

One central measure used by schools to design the educational context is curriculum planning. Curriculum planning is the act of creating differentiated curricula that will accommodate an increasingly diverse student population (Powell et al., 1985). Although the matching of students and curricula occurs within an environment of constraints, uncertainty and change (Delany, 1991), the underlying model is inherently one of organizational rationality, in which practices are designed in response to student characteristics (Sanders, 1990, p. 207) and social needs (Finch & Crunkilton, 1979, p.19; Saylor et al., 1981, p. 18). However, since public comprehensive schools are "domesticated" organizations obliged to provide educational services for all, curriculum differentiation may be seen also as an adaptive mechanism of the organization to the environmental conditions of unselected clients (Carlson, 1964, p. 265). The use of preferential treatment in domesticated organizations seems to make the organization-

client relationship more tolerable from the point of view of the organization (Carlson, 1964, p. 271). Therefore, curriculum differentiation may be understood not only in terms of its benefits for students, but also for the benefits it provides for teachers, administrators and for the school (Sanders, 1990, p. 227).

One of the most prominent and pervasive although controversial outcomes of curriculum planning processes is tracking, which is the practice of categorizing students by curriculum on the basis of their personal qualities, performances and aspirations (Oakes, 1985, 1986; Vanfossen et al., 1987; Crosby & Owens, 1993; Broussard & Joseph, 1998). Tracking is a mechanism for sorting students and is used to create a fit between educational treatments and the particular needs of students (Chunn, 1987; Vanfossen et al., 1987; Oakes, 1985, p.3, 1986). It is assumed to facilitate managing and controlling activities and to secure public support since it enables schools to meet the demands of powerful and affluent parents who wish to promote excellence by preserving the hierarchical track structure (Wells & Serna, 1996; Wells & Oakes, 1998). However, tracking may also be considered an artifact of school's scheduling process (Delany, 1991) and may have a negative impact on the educational opportunities for students, especially when they are selected for low-level tracks (Lee & Bryk, 1988; Vanfoessen et al., 1987; Oakes, 1985, p. 275). This argument is supported by research evidence showing that the loss of students placed in low-level tracks is greater than the gain of students placed in high-level tracks (Romo, 1999; Duru-Bellat & Mingat, 1998; Slavin, 1995; Resh & Dar, 1986; Grant & Rothenberg, 1986). These findings are explained by considering that lower-track classes are often characterized by dull and passive instruction (Oakes, 1992) and by fewer and lower cognitive demands of students. Studies show that teachers tend to feel less efficacious (Raudenbush et al., 1992) and their expectations of students are decreased in low-level tracks (Grant & Rothenberg, 1986). Consequently, students internalize these expectations and shape their beliefs regarding their capabilities accordingly (Furr, 1993; Valli, 1983). Such expectations lead students in lower tracks to decrease their efforts and to develop decreased academic and occupational aspirations (Berends, 1995), lower self-esteem (Vanfossen et al., 1987; Grant & Rothenberg, 1986; Catsambis et al., 1999) and lower self concept (Campbell et al., 2000). As a result, many teens in lower tracks exhibit progressive retardation as they progress through school (Crosby & Owens, 1993, p. 3).

In considering that students almost never move from low- to high-level tracks (Black, 1992), students' placement in low-level tracks seems to have a negative effect on their future life chances (Broussard & Joseph, 1998; Jacobson, 2000), social stratification (Knipprath, 2000) and academic career (Broussard & Joseph, 1998; Stitt-Goheds, 1999). This should trouble educators, particularly in light of research evidence showing that when tracking is abolished, greater academic success in English and history is achieved for more students, while rigorous academic standards are maintained (Cooper, 1999). Nevertheless, compared with the large amount of data on the relationship between self-efficacy and performance (Bouffard-Bouchard, 1990; Schunk, 1989; Pajares & Kranzler, 1995), the research on the relation between academic self-efficacy and divergent academic settings has been rather scarce (Bong, 1999; Pajares, 1996; Schunk, 1991). Moreover, the literature lacks substantial evidence to enable coming to a conclusion about whether academic self-efficacy may be shaped by the qualities of educational settings which students experience. Therefore, the purpose of the present study is to evaluate the extent to which tracking affects the academic self-efficacy of students selected for high- and low-level tracks. Based on the assumption inherent in the social cognitive theory (Bandura, 1986), it is assumed that students selected for low-level tracks

will exhibit lower levels of academic self-efficacy in comparison to those selected for high-level tracks.

## METHOD

*Sample*

310 students from 12 high schools located in five Israeli towns participated in the study. In each of the schools, one 10th grade class was randomly sampled and students were asked to complete the measurement instrument. The decision to focus on the 10th grade and to administer questionnaires at the beginning of the school year was made for two main reasons: Firstly, since youth from various junior high schools enter comprehensive high schools at the 10th grade, it is less likely that they would have been labeled by the end of the fourth week for their arrival. Secondly, schools' decisions regarding youths' placement in high-level (i.e., the matriculation track) or in low-level tracks in mathematics and English (studied in Israel as the main foreign language) are made at this grade level, two months after students enroll comprehensive high schools. This selection process is highly influential to the teenagers' future prospects since it determines who is and who is not likely to take the matriculation exams.
The sample was comprised of 161 boys and 149 girls. Of the 310 randomly sampled youths, 167 were eventually selected for the lower-level track and 143 were selected for the matriculation track.

*Research Design and Procedure*

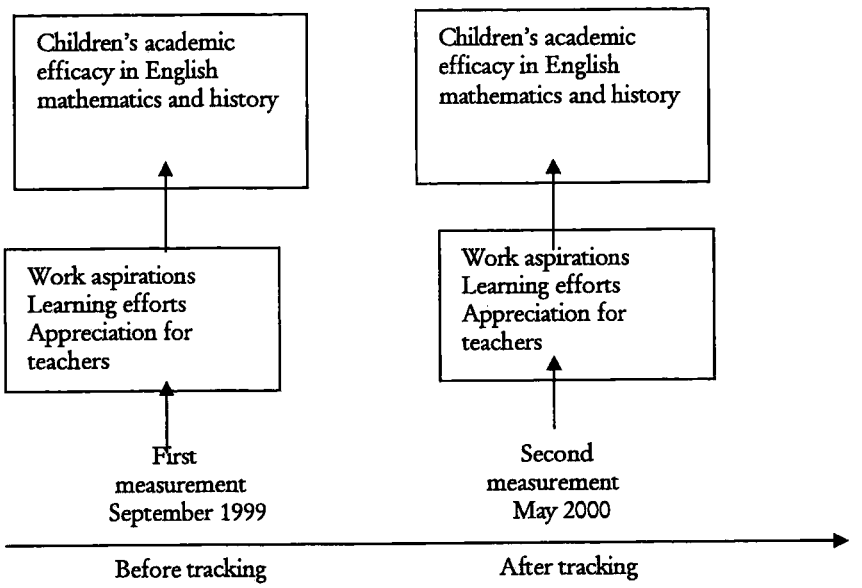
The purpose of the study is to evaluate the extent to which tracking affects the students' academic self-efficacy. Therefore, questionnaires were administered twice: in the first month of the school year, just before the studnets were selected for tracks, and nine months later.

In considering that the selection of individuals for tracks is made relative to the scores of others, and that students enter a comprehensive high school from a number of junior high schools, they could predict their being selected for high- or low-level tracks only on the basis of their previous learning experiences. In this sense, the design employed for this study is rather a natural-experiment type of research design (see Figure 1).

In each class the students' names were listed in order to ensure that the same individuals answer the questionnaires in both measurements.
The academic self-efficacy of youths was studied for three subjects: mathematics, English and history. Although tracking in history is made only in the 11th grade in the schools that were studied, students' academic self-efficacy in history was measured to better enable research control.

Research control was further perused by measuring their work aspirations, learning efforts and appreciation for the teachers who teach the subject matters under investigation.

FIGURE 1: THE RESEARCH MODE




## MEASURING INSTRUMENT

*The Academic Efficacy Scale*

Students' academic self-efficacy in mathematics, English and history was studied using a three-factor scale that was constructed for the purposes of this study. The items of the scale were developed by district-level instructors in mathematics history and English, who were asked to offer items that according to their experience, best tap students' judgment related to academic confidence in these subject matters. Then, a pilot study with 120 high-school students was conducted and the items were factor analyzed. The analysis yielded a three-factor solution. One subset evaluates students' academic self-efficacy in English. A second subset focuses on students' academic self-efficacy in mathematics and a third subset centers on students' academic self-efficacy in history.

Next, 40 high school students that did not participate in the pilot study were asked to assess the items' face validity. Low reliability items were omitted from each of the subsets, based on their face validity and on the reliability levels that were obtained in the pilot study. The Cronbach Alpha reliability coefficient obtained for the items of the first English subset was $\alpha = .92$, for the mathematics subset $\alpha = .90$ and for the third subset $\alpha = .88$.

A principal component factor analysis with Varimax rotation that analyzed the responses of 310 students who participated in the study formed three identical factors to the ones obtained in the pilot study. The items loading in this analysis is equal or greater than .50, and the three factors explain 66.5% of the variance (see Appendix A).

*Work Aspirations*

The work aspirations of students' were studied using a composite of three statements that were originally used by Rojewski (1997) to measure adolescents work aspirations. Statements asked participants to indicate the degree of importance they attach to being successful in a chosen line of work, having lots of money and being able to find steadily employment as adults. The Cronbach Alpha reliability coefficient obtained for the items of the work aspirations was $\alpha = .88$.

*Learning Efforts*

Based on interviews conducted with 20 high- school students, this scale was developed. The students were asked to point out behaviors they consider most representing of students' learning efforts. A summary of the responses yielded three significant categories representing students' learning efforts: the preparation of homework, the planning of learning and the use of feedback. Based on the reliability scores obtained in the pilot study, 9 items were eventually included in the learning efforts' index. Three sample items, one for each category are: "I set a tight schedule before I begin studying for exams"; "I read my teachers' comments so that future mistakes can be avoided"; and "I prepare my homework even if I have difficulties".
The Cronbach Alpha reliability coefficient obtained for the items of the learning efforts index was $\alpha = .90$. To further examine the homogeneity of the scale, the items were factor analyzed. The analysis resulted in a single-factor solution, supporting the previously stated assumptions that the items are measuring a single common underlying construct.

*Appreciation for teachers*

Students' appreciation for teachers' index consisted of four items: (1) "my _____ teacher teaches in a clear and interesting fashion"; (2) "my _____ teacher is sensitive to pupils' needs"; (3) "I enjoy listening to my _____ teacher" and (4) "my _____ teacher demonstrates vast knowledge." The Cronbach Alpha reliability coefficient for these items was $\alpha = .88$. The items were presented in the questionnaire three times, so that students' appreciation for their English history and mathematics teachers could be evaluated.
The response format for all scales employed a 7-point Likert type scale.

## RESULTS

The data were analyzed in two sequential stages. Since the purpose of the study is to assess the impact of tracking on academic self-efficacy of students in three subject matters and in considering that academic self-efficacy perceptions in English, history and mathematics may be inter-correlated, a multivariate analysis of variance procedure (MANOVA) was used to account for the relationship among the multiple dependent variables (Tabachnick & Fidell, 1989). This analysis was used to assess if differences existed between low-track and high-track students before and after being selected to tracks for each of the dependent variables. In this analysis gender, students' work inspirations, learning efforts and appreciation for teachers were used as covariates.

Then, to assess whether tracking differently affects students in high and low tracks, comparisons were performed within each group level, before and after tracking, employing a Repeated Measure procedure. In each of these analyses, gender, students' work aspirations, learning efforts and appreciation for teachers were controlled and

treated as covariates. Paired-sample t-tests were employed to determine the source for the differences found in the repeated-measure procedure.

*Differences Between Groups*

The results from the MANOVA analysis revealed as expected that students eventually selected for the high and low tracks differ in their academic self-efficacy in English and mathematics before and after tracking. The analysis yielded statistically significant differences between the two groups even when students' gender, learning efforts, work aspirations and appreciation for their teachers were treated as covariates. The findings show that tracking is a good indicator for students' academic self efficacy and that it is a much stronger predictor for academic self-efficacy in comparison to the variables that were used in the analysis as covariates.

TABLE 1: MANOVA AND ANOVA RESULTS BETWEEN LOW-LEVEL AND HIGH-LEVEL TRACKS, BEFORE AND AFTER TRACKING

| | MANOVA | | low-level track (n = 167) | | high-level track (n = 143) | | ANOVA |
|---|---|---|---|---|---|---|---|
| Variables | *df* | *F* | *M* | *SD* | *M* | *SD* | *F* |
| Academic Self-Efficacy | 6,283 | 10.45*** | | | | | |
| Before tracking | | | | | | | |
| English | | | 4.91 | 1.21 | 5.49 | 1.08 | 5.35* |
| Mathematics | | | 4.81 | 1.34 | 5.17 | 1.27 | 6.09** |
| History | | | 5.19 | 1.04 | 5.20 | 1.04 | .13 |
| After tracking | | | | | | | |
| English | | | 4.40 | 1.02 | 5.18 | 1.12 | 13.96*** |
| Mathematics | | | 4.30 | 1.16 | 4.98 | 1.19 | 54.43*** |
| History | | | 5.16 | 1.05 | 5.25 | .93 | .68 |

*Note*: All the values represent mean scores. Gender, work aspirations, learning efforts and appreciation for teachers are used as covariates.
*p<.05; **p<.01; ***p<.001

The results reveal that before tracking, students selected for the high-level track perceive their academic self-efficacy in English ($M$=5.49; $sd$=1.08) and mathematics ($M$=5.17; $sd$=1.27) to be relatively high and significantly higher relative to the academic self-efficacy in English ($M$=4.91; $sd$=1.21) and mathematics ($M$=4.81; $sd$=1.34) of those selected for the low-level track.

Since students' selection for high- or low-level tracks is influenced by their knowledge and past experiences, it is likely that those who were eventually selected for the low-level track have accumulated negative experiences as learners in the elementary and junior high schools in comparison to those selected for the high-level track. This may explain the discrepancy in the academic self-efficacy in English and mathematics between those selected for high and low level tracks even before being selected for tracks. However, such a predisposition is not evident when students' academic self-efficacy in history is measured. This may be explained in considering that contrary to mathematics or English, in which proficiency may be identified more easily, the criteria that may be employed by teens to distinguish among skilled and unskilled history

learners and to assess their own proficiency are rather vague. Therefore, students may find it more difficult to develop a clear image of their academic self-efficacy related to this subject matter. These statistically significant differences between the two groups remain in the second measurement that took place after children were selected to tracks. Here again, students in the high-level track perceive their academic self-efficacy in English (M=5.18; sd= 1.12) and in mathematics (M=4.98; sd=1.19) to be higher in comparison to the academic self-efficacy in English (M=4.40; sd=1.02) and mathematics (M=4.30; sd=1.16) of children selected to low-level track.

*The Effect of Tracking Within Groups*

Next, a Repeated Measure procedure followed by t-test comparisons were employed to assess the impacts of tracking on students' academic self-efficacy within each of the tracks after tracking was utilized.

In the low-level track the data suggests that statistically significant changes have occurred in students' academic self-efficacy in English (Wilks' Lambda = .906; $F = 7.654$; $p < .01$) and mathematics (Wilks' Lambda = .818; $F = 30.858$; $p < .01$), but not in history (Wilks' Lambda = .909; $F = 1.208$). These differences were also found when students' gender, work aspirations, learning efforts and appreciation for their teachers were used as covariates.

Paired-sample t-test comparisons revealed that the academic self-efficacy of low-track students in English and mathematics was significantly decreased after tracking was applied. In addition, no statistically significant differences were found in students' academic self-efficacy in history or in their learning efforts, work aspirations and appreciation for their teachers, which were used as covariates in the previous analysis.

In the high-level track, however, no statistically significant changes were found in students' academic self-efficacy in English (Wilks' Lambda = .965; $F = 2.552$), mathematics (Wilks' Lambda = .998; $F = .25$), history (Wilks' Lambda = .999; $F = .17$) or in students' work aspirations and appreciation for their teachers before and after tracking was utilized. A single significant difference between the two measurements was found in students' learning efforts, which were significantly increased. Students selected for the high-level track seemed to put greater emphasis on the preparation of homework, on the planning of learning and on the feedback they got from their teachers. This is hardly surprising since the matriculation track presents highly competitive circumstances for adolescents and increases the amount and level of learning assignments. Hence, they have to try harder if they wish to succeed and remain in this track. However, it is important to note that this statistically significant change in students' learning efforts had no significant effect on the overall impact of tracking on students' academic self-efficacy.

The total set of findings show that tracking influenced mainly the academic self-efficacy of students selected for the low-level track. It is evident that those in the lower track reported a lower degree of academic self-efficacy in English and mathematics less than 10 months after being selected for this track. It is interesting to note, however, that their placement in the lower track did not impact other aspects related to the experiences of schooling, such as their learning efforts, appreciation for teachers, nor their work aspirations, which remained relatively moderate and unchanged. This may be partly explained due to the relatively short period of time that passed between the two measurements and may also indicate that tracking has a more immediate influence on academic self-efficacy than on the other variables that were measured in this study.

## DISCUSSION

The findings show that tracking did not benefit the academic self-efficacy of students either in high or in low-level tracks. In line with previously reported evidence on the impact of tracking, our findings indicate that while the academic self-efficacy of students in the high-level track remained unchanged, the academic self-efficacy of those selected to the low-level track significantly decreased. Moreover, by the end of the first year of tracking, the students in the matriculation track increased their learning efforts, while the work aspirations and learning efforts of those in the low-level track remained surprisingly unchanged. Since low-level tracking is believed to negatively impact students' work aspirations and motivation as well (Oakes, 1985, Oakes, 1986; Vanfossen et al., 1987; Crosby & Owens, 1993; Broussard & Joseph, 1998), it may be argued that more time may be required before the impact of tracking on these variables may be identified.

Our findings allow coming to the conclusion that academic self-efficacy is strongly related to the context of learning. Moreover, prejudicial learning settings such as low-level tracks seem to harm rather than provide adequate pedagogical circumstances that may promote students' perceived academic self-efficacy. Therefore, it is suggested that the introduction of tracking in high schools should be reconsidered. Although segregation among students is considered essential by some educators and parents for efficient pedagogy, especially when coping with the diversity of individual needs, schools may want to develop a mechanism by which students will receive differentiated services without being labeled.

It seems that segregation within classes rather than among classes may be the solution. This strategy will require schools to abolish tracking and to introduce some new pedagogical and didactical measures appropriate for teaching in non-homogenous classes, such as peer learning or the grouping of students by specific tasks or subject matter. Eventually, the classroom will become a basic social unit for all students, regardless of their academic proficiency. This in turn will decrease the chances of low achievers being labeled, since high and low achievers will be part of the same class, share the same social activities and will be taught by the same teachers.

However, taking this course of action is not an easy task. It requires teachers to acquire the qualifications needed for teaching in heterogeneous classes. Moreover, educators will have to deal with many more discipline issues, with motivational problems and with the need to provide challenges for both high and low achievers. Furthermore, they will have to cope with worried parents who see tracking as the only solution for ensuring excellence.

Hence, although curriculum planning in general and tracking in particular provides a managerial tool that facilitates the coping with the diversity of clients' individual needs, schools still have to choose between abolishing and maintaining tracking. It is important to recognize, however, that to track or not to track should not be considered the same as the dilemma between excellence and equity, which is often mentioned when the relevancy of tracking is discussed. It is rather an issue concerning educators' accountability and commitment to students and an outgrowth of a more fundamental question inherent to public schooling: for whom is the public school intended.

REFERENCES

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28: 117-148.

Bandura, A. (1977). Self-efficacy: Toward unifying theory of behavioral change. *Psychological Review*, 84:191-215.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bandura, A., & Schunk, D.H. (1981). Cultivating competence, self-efficacy and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology*, 41: 586-598.

Berends, M. (1995). Educational stratification and students' social bonding to school. *British Journal of Sociology of Education*, 16 (3): 327-351.

Black, S. (1992). On the wrong track. *Executive Educator*, 14 (2): 46-49.

Bong, M. (1999). Personal factors affecting the generality of academic self-efficacy judgments: gender, ethnicity and relative expertise. *The Journal of Experimental Education*, 67 (4): 315-331.

Bouffard-Bouchard, T. (1990). Influence of self-efficacy on performance in a cognitive task. *Journal of Social Psychology*, 130: 353-363.

Bouffard, T. & Vezeau, C. (1996). *Self-regulation and the self-system: A longitudinal study of the role of self-efficacy among elementary school children*. Paper presented at the Annual Meeting of the American Educational Research Association, New York.

Broussard, C.A. & Joseph, A.L. (1998). Tracking: A form of educational neglect? *Social Work in Education*, 20 (2): 110-120.

Campbell, W., Gloria, D., & Comer, J. (2000). Self-concept and African-American student achievement: Related issues of ethics power and privilege. *Teacher Education and Special Education*, 23 (1): 19-31.

Carlson, R. O. (1964). Environmental constraints and organizational consequences: The public school and its clients. In: D.E. Griffiths, (Ed.), *Behavioral sciences and educational administration: The sixty-third yearbook of the National Society for the Study of Education*. Chicago, Illinois: University of Chicago Press.

Catsambis, S., Mulkey, L. M. & Crain, R. L. (1999). To track or not to track: The social effects of gender and middle school tracking. *Research in Sociology and Socialization*, 12: 135-163.

Chen, C., Lee, S., & Stevenson, H.W. (1996). Long-term prediction of academic achievement of American Chinese and Japanese adolescents. *Journal of Educational Psychology*, 88: 750-759.

Chunn, E. W. (1987). Sorting black students for success and failure: The inequality of ability grouping and tracking. *Urban League Review*, 11 (1-2): 93-105.

Collins, J.L. (1982). *Self-efficacy and ability in achievement behavior*. Paper presented at the Annual Meeting of the American Educational Research Association, New York.

Cooper, R. (1999). Urban Education reform: Student responses to detracking in a racially mixed high school. Journal of Education for Students Placed at Risk, 4 (3): 259-275.

Crosby, M., & Owens, E. (1993). *The disadvantages of tracking and ability grouping: A look at cooperative learning.* ERIC/EDRS Doc. Ed 358 184. Clemson SC: National Dropout Prevention Center.

Delany, B. (1991). Allocation, choice and stratification within high schools: How thesorting machine copes. *American Journal of Education*, 99 (2): 181-207.

Duru-Bellat, M., & Mingat, A. (1998). Importance of ability grouping in French Colleges and its impact upon pupils academic achievements. *Educational Research and Evaluation*, 4 (4): 281-306.

Finch, C.R., & Crunkilton, J.R. (1979). *Curriculum development in vocational and technical education.* Boston: Allyn and Bacon, Inc.

Furr, L. A. (1993). Curriculum tracking: A new arena for school social work. *Social Work in Education*, 15: 35-44.

Grant, L., & Rothenberg, J. (1986). The social enhancement of ability differences: Teacher-student interactions in first and second grade reading groups. *The Elementary School Journal*, 87 (1): 29-49.

Hackett, G. (1985). Role of mathematics self-efficacy in the choice of math-related majors of college women and men: A path analysis. *Journal of Counseling Psychology*, 32: 47-56.

Hackett, G., Betz, N.E., Casas, J.M., & Rocha-Singh, I.A. (1992). Gender, ethnicity and social cognitive factors predicting the academic achievement of students in engineering. *Journal of Counseling Psychology*, 39: 527-538.

Jacobson, K. G. (2000). *Central tensions: A critical framework for examining high school mathematics and mathematics education.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans.

Knipprath, H. (2000). A case study of the contribution of tracking to the reproduction of social stratification. *Journal of Educational Sociology*, 66: 157-175.

Lee, V. E., & Bryk, A. S. (1988). Curriculum tracking as mediating the social distribution of high school achievement. *Sociology of Education*, 61: 78-94.

Maddux, J.E., Norton, L.W., & Stoltenberg, C. D. (1986). Self-efficacy expectancy, outcome expectancy and outcome value: Relative effects on behavioral intentions. *Journal of Personality and Social Psychology*, 51: 783-789.

Malpass, J.R., & O'Neil, H.F. (1996). *Self-regulation, goal orientation, self-efficacy, worry and math achievement.* Paper presented at the Annual Meeting of the American Educational Research Association, New York.

Norwich, B. (1994). Predicting girls' learning behavior in secondary school mathematics lessons from motivational and learning environment factors. *Educational Psychology*, 14 (3): 291-306.

Oakes, J. (1985). *Keeping track: How schools structure inequality.* New Haven Conn.:Yale University Press.

Oakes, J. (1986). Keeping track, part 1: The policy and practice of curriculum inequality, *Phi Delta Kappan*, 68 (1): 12-17.

Oakes, J. (1992). Can tracking research inform practice? Technical, normative and political considerations. *Educational Researcher*, 21 (4): 12-21.

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66 (4): 543-578.

Pajares, F. & Kranzler, J (1995). Self efficacy beliefs and general mental ability I: mathematical problem solving. *Contemporary Educational Psychology*, 20: 426-443.

Pajeras, F., & Miller, M. D. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. *Journal of Educational Psychology*, 86 (2): 193-203.

Pintrich, P.R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82: 33-40.

Pintrich, P.R. & Schunk, D.H. (1995). *Motivation in education: Theory, research and applications*. Englewood Cliffs, NJ: Prentice-Hall.

Powell, A. G., Farrar, E., & Cohen, D. K. (1985). *The shopping mall high school: Winners and losers in the educational market place*. Boston: Houghton Mifflin.

Raudenbush, S. W., Rowan, B., & Cheong, Y. F. (1992). Contextual effects on the self-perceived efficacy of high-school teachers. *Sociology of Education*, 65: 150-167.

Resh, N., & Dar, Y. (1986). Learning segregation in junior high-schools in Israel: Causes and consequences. *School Effectiveness and School Improvement*, 3 (4): 272-292.

Romo, H. (1999). Tracking programs derail minority and disadvantaged students' success. *Community College Journal*, 69 (3): 12-17.

Rojewski, J. W. (1997). Characteristics of students who express stable of undecided occupational expectations during early adolescence, *Journal of Career Assessment*, 5 (1): 1-20.

Salomon, G. (1984). Television is "easy and print is tough": The differential investment of mental effort in learning as a function of preconceptions and attitudes. *Journal of Educational Psychology*, 76:647-658.

Sanders, N.M. (1990). Organizational meanings of curriculum differentiation practices. In: Reba Page & Linda Valli (Eds.) *Curriculum differentiation*, pp. 207-231. Albany: State University of New York Press.

Saylor, J. G., Alexander, W. M., & Lewis, A. J. (1981). *Curriculum planning for better teaching and learning* (4th edition). New York: Holt, Rinehart & Winston.

Schunk, D.H. (1982). Effects of effort attributional feedback on children's perceived self-efficacy and achievement. *Journal of Educational Psychology*, 74: 548-556.

Schunk, D.H. (1983a). Developing children's self-efficacy and skills: The roles of social comparative information and goal setting. *Contemporary Educational Psychology*, 8: 76-86.

Schunk, D.H. (1983b). Reward contingencies and the developments of children's skillsand self-efficacy. *Journal of Educational Psychology*, 75: 511-518.

Schunk, D.H (1989). Self-efficacy and cognitive skill learning. In C. Ames and R. Ames (Eds.), *Research on motivation in education*. Vol. 3: Goals and cognitions (pp. 13-44), San Diego: Academic.

Schunk, D.H. (1987). Peer models and children's behavioral change. *Review of Educational Research*, 57, 149-174.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, 26: 207-231.

Schunk, D.H. & Gunn, T.P. (1986). Self-efficacy and skill development: Influence of task strategies and attributions. *Journal of Educational Research*, 79, 238-244.

Slavin, R. E. (1995). Detracking and its detractors: Flawed evidence, flawed values. *Phi Delta Kappan*, 77 (3): 220-221.

Stipek, D.J., & Gralinski, J.H. (1991). Gender differences in children's achievement related beliefs and emotional response to success and failure in mathematics. *Journal of Educational Psychology*, 83: 361-371.

Stitt-Goheds, W. (1999). An appropriate education. 1998 AVERA President's Address. *Journal of Vocational Education Research*, 24 (1): 9-13.

Tabachnick, B. G. & Fidell, L. S. (1989). *Using multivariate statistics* (2nd ed.). N.Y.: Harper Collins.

Valli, L. (1983). Becoming clerical workers: Business education and the culture of femininity. In: M. W. Apple & L. Weis (Eds.), *Ideology and practice in schooling* (pp. 213-234). Philadelphia: Temple University Press.

Vanfossen, B. E., Jones, J. D., & Spade, J. Z. (1987). Curriculum tracking and status maintenance, *Sociology of Education*, 60 (2): 104-122.

Wells, A. S., & Oakes, J. (1998). Tracking, detracking and the politics of educational reform: A sociological perspective. In: C. A. Torres, & T. R. Mitchell, (Eds.), Sociology of education: Emerging perspectives. Albany: State University, New York Press.

Wells, A. S., & Serna, I. (1996). The politics of culture: Understanding local political resistance to detracking in racially mixed schools. *Harvard Educational Review*, 66 (1): 93-118.

Zimmerman, B.J. (1995). Self-efficacy and educational development. In: A. Bandura(Ed.), *Self-efficacy in changing societies* (pp. 202-231). New York: Cambridge University Press.

Zimmerman, B.J., Bandura, A., & Martinez -Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29: 663-676.

Zimmerman, B.J. & Bandura, A. (1994). Impact of self-regulatory influences on writingcourse attainment. *American Educational Research Journal*, 31: 845-862.

Zimmerman, B.J. & Martinez -Pons, M. (1990). Student differences in self-regulating learning: Relating grade sex and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82 (1): 51-59.

## APPENDIX A: FACTOR LOADING FOR THE CHILDREN ACADEMIC EFFICACY ITEMS

| Items | factor 1 | factor 2 | factor 3 |
|---|---|---|---|
| Cope with high level material in English | .88 | .03 | .02 |
| Prepare my homework in English by myself | .87 | .06 | .12 |
| Succeed in examinations in English | .86 | .02 | .19 |
| Understand everything my English teacher says in class | .86 | .04 | .05 |
| Become an A student in English | .80 | .12 | .02 |
| Cope with English grammar | .77 | .01 | .02 |
| Understand when watching an English speaking movie | .63 | -.08 | -.02 |
| Prepare my homework in mathematics by myself | .01 | .87 | .06 |
| Cope with the various assignments in mathematics | .13 | .82 | -.08 |
| Cope with high-level material in mathematics | .07 | .80 | .09 |
| Easily solve any mathematical problem | -.05 | .77 | .20 |
| Find it easy to formulate mathematical rules | .02 | .76 | .35 |
| Become an A student in mathematics | .06 | .74 | .10 |
| Cope with complicated mathematical problem | .04 | .68 | .14 |
| Remember a succession of historical events | .03 | .18 | .78 |
| Predict future developments based on historical evidence | .09 | .03 | .71 |
| Differentiate between causes and consequences when reading an historical text | .22 | .30 | .70 |
| Become an excellent history student | .17 | .26 | .68 |
| Succeed in examinations in history | .13 | .21 | .66 |
| Prepare my homework in history by myself | .16 | .24 | .63 |
| Analyze and interpret historical evidence | .18 | .26 | .59 |

Factor 1: learning efficacy in English (Eigenvalue 5.56)
Factor 2: learning efficacy in mathematics (Eigenvalue 3.02)
Factor 3: learning efficacy in history (Eigenvalue 1.39)

# FACILITATING THE TRANSITION FROM TEACHER CENTERED TO STUDENT CENTERED INSTRUCTION AT THE UNIVERSITY LEVEL VIA CONSTRUCTIVIST PRINCIPLES AND CUSTOMIZED LEARNING PLANS

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## INTRODUCTION

At the dawn of the New Millennium, there are a variety of comprehensive learner-centered instructional models that offer a variety of approaches to facilitating the transition from teacher-centered to student-centered instruction at the university level. And, since students are different and learn at difficult rates and have different abilities, contemporary teachers at all levels of the instructional spectrum are advised to consider using appropriate models of instruction in order to meet the different needs of their students (Johnson, 1991). These different models include a variety of contemporary techniques and strategies within their purview, including direct instruction, diagnostic and prescriptive teaching, adaptive teaching using learning styles and brain research, Socratic methods, seminar and tutorial procedures, mastery learning, cooperative learning and authentic assessments.

One such model, based on the premise that, "all students can learn, but not in the same way or on the same day", is the individualized instruction module approach also known as Customized Learning Plans. These student-oriented plans include a variety of instructional techniques, a vast array of resources, and various evaluation procedures. They are becoming more of a reality in more university settings today because of our contemporary technology (Polka, 1998).

Customized Learning Plans are predicated on the constructivist educational philosophy which advocates learners to use their experiences to actively construct understanding that makes sense to them, rather than have understanding delivered to them in already organized form (Eggen & Kauchak, 1997). This instructional perspective emphasizes active learners who link their new knowledge with their prior knowledge and apply their expanded understandings to authentic situations. Subsequently, meaningful interactions between teachers and students and students with each other are the key instructional concepts of constructivism.

The role of the teacher in constructivist teaching-learning situations is that of a facilitator of learning as opposed to a purveyor of information. Teachers focus more on designing activities and assignments that engage students in constructing important knowledge. The results of these activities will be different for each individual, depending on their experiences, knowledge, and their cognitive structures at the time (Danielson, 1996). Accordingly, Brooks and Brooks (1997) enumerated the specific constructivist teacher behaviors as follows:

- Encourage and accept student ideas and initiatives.
- Use raw data and primary sources along with manipulative, interactive, and physical materials.
- Encourage students to engage in dialogue, both with the teacher and with one another.
- Encourage student inquiry by asking thoughtful, open-minded questions and encouraging students to ask each other questions.
- Provide time for students to construct relationships and create metaphors.

## HISTORICAL REVIEW

Although constructivism instructional views are in vogue at the dawn of the 21st Century, educational historians (Ornstein & Levine, 1989) have identified that the basic tenets of constructivist philosophy can be traced to such educational pioneers as:

- Quintilian, who recognized the significance of individual differences in learning in the 1st Century AD;
- Comenius, who advocated relating instruction according to the individual's natural growth and development in the 17th Century;
- Rousseau, who advocated for student-centered progressivism in the 18th Century; and
- Pestalozzi, who focused on the role of the teacher as a facilitator of learning in the 19th Century.

Customized Learning Plans, which promote a more individualized approach to education, are fundamental to the American educational experience, and are consistent with our social, economic, political, and cultural ethos. This significance has been effectively documented in the educational literature and research of the past ninety years. Thus, the essential worth, dignity, and potential of the individual are well rooted in our educational heritage (Polka, 1977).

However, during the late 19th Century and throughout a major part of the 20th Century, America was in the industrial age, and its educational institutions and their programs reflected that industrial society. Most often the individual and his/her unique abilities, interests, motivations, and aspirations were subjected to predetermined learning experiences that were congruent with the industrial-age thinking. But this was acceptable in the industrial age society, given the social, economic, political and cultural context (Oakes, 1985).

John Dewey's seminal work, *Democracy and Education* (1916), identified the significance of modeling our democratic principles in classrooms at all levels. He believed, "Individual differences are hallmarks of a democracy, whereas samenesses are hallmarks of a non-democracy," (Dewey, 1916). The progressive education proponents of the first quarter of the 20th Century employed Dewey's philosophy in further developing and formalizing the instructional principles underlying progressive education (Marzano, 2000) and subsequently, constructivism. Those key principles were enumerated by Shaefer (1971) as follows:

- Instruction must take into account a learner's developmental needs.

- Knowledge cannot be imposed on a learner, but must be actively constructed by the learner.
- Participation in social life is central to learning.
- The scientific method is one of the primary tools for learning.
- Development of the individual is one of the primary purposes of education.

The progressive movement, with its focus on the individual, was gaining momentum in the United States until World War II changed our curriculum expectations to a more standardized content focus (Unruh, 1984). There was another de-emphasis on individualized instruction, or student-centered approaches, following the launch of Sputnik in 1957 and publication of Admiral Hyman Rickover's Education and Freedom in 1959. However, key educational researchers such as Jerome Bruner and Hilda Taba began to advance the understanding of sound pedagogy at all levels of the instructional spectrum (Marzano, 2000).

Student-centered pedagogical approaches were reinforced by a 1964 ASCD publication entitled Individualized Instruction, which extended several of the progressive education concepts initially postulated by Dewey. That document identified that the individualization of instruction is a curriculum concept designed to help each become all s/he is capable of being. It involves teacher and pupil planning of the interests, goals, activities, and outcomes of the learning process (Polka, 1977). Subsequent research by Madeline Hunter in the late 60's and 70's on "Effective Teaching" (Hunter, 1976) and Benjamin Bloom on "Mastery Learning" (Bloom, 1976) reaffirmed the significance of focusing on pedagogy in order to improve individual student performance in educational settings.

During the last quarter of the 20th Century there were a vast array of studies on the significance of effective instruction as related to improved student performance at all levels of education. Contemporary researchers have analyzed some of the major instructional innovations, including, Innovations from Brain Research, Teaching for Intelligence, Thinking Skills Programs, Learning Styles, Cooperative Learning, Mastery Learning, Direct Instruction, and Authentic Assessment, and have concluded that, "classroom life unfolds within a complex set of conditions. The list of human and material variables is endless. No two individuals and no two classrooms are the same, just as no two schools or communities are the same. Each teacher's personal, practical sense of teaching and learning is different" (Ellis, 1997).

Now, at the dawn of the 21st Century, constructivism has become the major focus of instructional research and literature at all levels of the educational spectrum.

## STATEMENT OF THE PROBLEM

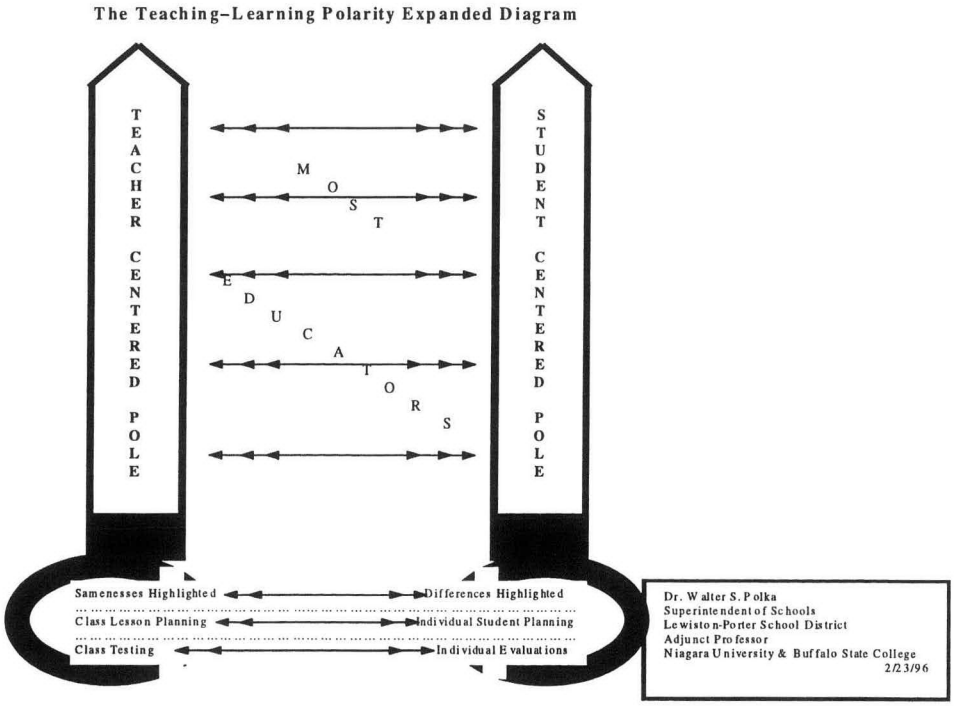
How do we facilitate the transition from teacher-centered to learner-centered instruction at universities in the New Millennium?

## METHODOLOGY FOR FACILITATING AND SUSTAINING CONSTRUCTIVISM AT UNIVERSITIES

One of the most effective starting points for facilitating the transition from teacher-centered approaches to learner-centered approaches, is to assist teachers in determining their own current position on a continuum of instructional practices that are categorized as teacher-centered, to those that are categorized as student-centered (Polka, 1996).

At the one end of the continuum – "the teacher-centered pole" - lesson planning is done for the class, testing is done for the class, and samenesses are highlighted. At the opposite end of the continuum – "the student-centered pole" – individual student planning, individual evaluations, and different testing styles are the norm. Accordingly, the following visual diagram represents the instructional practice polarities and the continuum:

FIGURE 1.1




There are additional benchmarks that may be used to assist educators in identifying their current instructional practices. The nine following classroom functional categories were initially articulated in a Columbia University publication (I.A.R., 1973): A) Teacher Objectives; B) Teacher's Planning and Preparation; C) Teacher Communication and Message; D) Teacher Behavior; E) Student Objectives; F) Student Planning and Preparation;

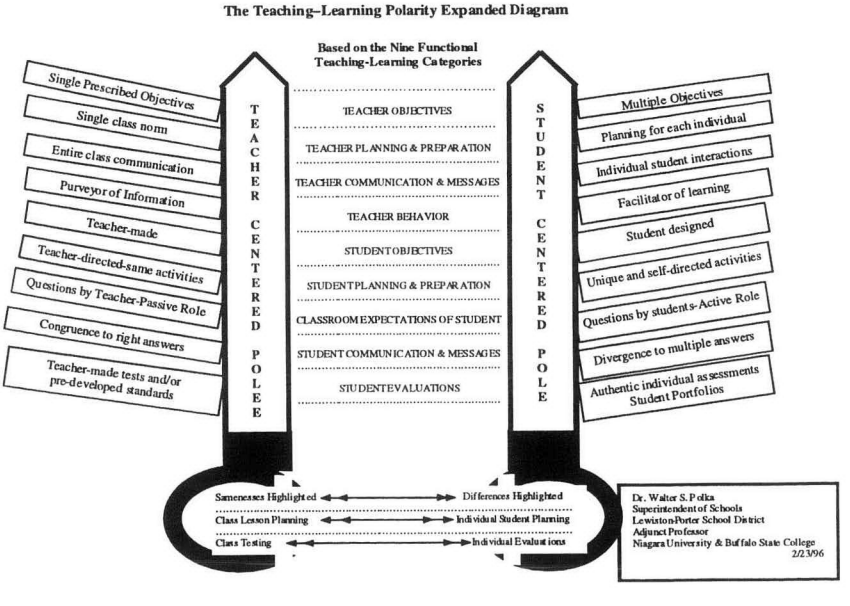
G) Classroom Expectations of Students; H) Student Communication and Messages; I) Student Evaluation.

A more specific polar analysis of the major activities associated with classroom behaviors of teachers and students in each of these respective nine functional categories reinforces the key differences that exist between the student-centered approach to education and the teacher-centered approach. Figure 1.2, The Teaching-Learning Polarity Expanded Diagram, specifically illustrates key teaching-learning concepts based on the nine previously enumerated functional teaching-learning categories.

This expanded diagram gives educators a more comprehensive perspective of the diametrically opposed teaching-learning concepts, activities and roles associated with functioning as a professional at either pole. Most educators are probably functioning somewhere between the poles in each of the identified categories. Some may be closer to one pole for one or more of the categories, and closer to the opposite pole for the other categories. However, the degree of general behavioral movement away from one pole toward another becomes significant when encouraging a paradigmatic shift in educational perspective.

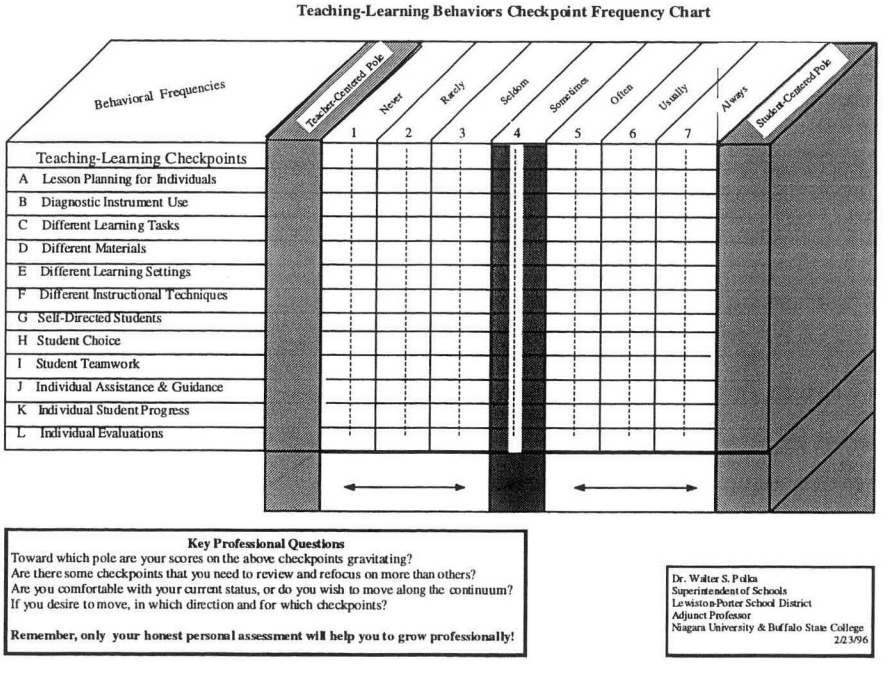
Another checklist that has been used successfully in various modified versions during the past two decades is one that originally had its genesis at the University of Pittsburgh Learning, Research and Development Center (Heathers, 1968). It is currently entitled, "A Dozen Checkpoints for Assessing the Degree of Individualized Instruction", and may be used to assess the degree of customization in any instructional program (Polka, 1996).

FIGURE 2.1



Instructors may plot their responses to each of the twelve statements on the accompanying Teaching-Learning Behaviors Frequency Chart, Figure 1.3, in order to ascertain their own typical teacher behaviors which are most closely congruent with customized learning approaches, and those that are not. Individual evaluations and reflections, using each checkpoint as a reference, may be most appropriate to facilitate the change to a student-centered approach at the university level.

FIGURE 1.3




## SUMMARY

Student-centered instruction and learning is definitely more possible today because of modern technology. We are able to package teaching-learning modules such as Customized Learning Plans to suit people with different preferred thinking and learning styles. In this way the quality of both teaching and learning will become dramatically improved for many people who were disadvantaged by the old system (Ellyard, 1999). Therefore, student-centered learning at the university level will become more of a reality in the 21st Century if we continue to focus on encouraging teachers to evaluate their current practices, reflect on what they can do to individualize instruction, and customize learning more specifically in their own educational experiences by applying constructivist principles and Customized Learning Plans.

**Bibliography**

Brooks, J.B. & Brooks, M.G. (1993) *In Search of Understanding: the Case for Constructivist Classrooms.* Alexandria, VA: Association for Supervision and Curriculum Development. (p. 4).

Danielson, C. (1996). *Enhancing Professional Practice: A Framework for Teaching.* Alexandria, VA: Association for Supervision and Curriculum Development. (p. 23).

Dewy, J. (1916). In *Democracy and Education.* New York: The MacMillen Co., 1996. (p. 51).

Eggen, P. and Kauchak, D. (1997). *Educational Psychology: Windows On Classrooms.* Upper Saddle River, NJ: Prentice-Hall, Inc. (pp. 58-9).

Ellis, A.K. & Fouts, J. T. (1997). *Research On Educational Innovations.* Larchmont, NY: Eye on Education. (p. 12).

Ellyard, P.F. (1999). Preparing Our Schools for the 21st Century. In D. Marsh (Ed.), *Developing a Learning Culture.* Alexandria, VA: Association for Supervision and Curriculum Development. (p. 55).

Heathers, G. (1968). *Checklist For Assessing Amount and Types of Individualized Instruction.* University of Learning, Research and Development Center: Pittsburg, PA.

Institute of Administrative Research (1970). *Polar Characteristics Distinguishing Individualizing From Non-Individualizing Teaching Practices.* New York: Teachers College, Columbia University.

Johnson, J., Collins, H., Duperes, V. and Johansen, J. (1991). *Foundations of American Education.* Boston, MA: Allyn and Bacon. (p. 526).

Marzano, R. J. (2000). 20th Century Advances In Instruction. In R. Brandt (Ed.), *Education in a New Era.* (pp. 67-95). Alexandria, VA: Association for Supervision and Curriculum Development.

Ornstein, A. C. and Levine, D. V. (1989). *Foundations of Education.* Boston, MA: Houghton Mifflin Co. (pp. 79-198).

Polka, W. S. (1977). *Curriculum Planning for the Individualization of Instruction.* Unpublished Doctorial Dissertation, Faculty of Educational Studies, State University of New York at Buffalo, NY. (p. 16).

Polka, W. S. (1996). *The Individualization of Instruction...Not Just What It is...But How To Do It.* A Niagara University Graduate Course. Niagara University, NY.

Polka, W. S., McCunn, G. & Mattai, P. R. (1998). *Customizing Instruction at the University Level: Not Just What It is, But How to Do It!* Workshop presented at the 23rd Annual International Conference on Improving University Learning and Teaching, Dublin, Ireland.

Schafer, R. J. (1971). Retrospect and prospect. In *The curriculum: retrospect and prospect. Seventieth yearbook of the National Society for the Study of Education, Part I* (pp.3-25) Chicago: University of Chicago Press.

Unruh, G. & Unruh, A. (1984). *Curriculum development: Problems, processes, and progress.* Berkeley, CA: McCutchan. (p. 14).

# THE NEED FOR ATTENTION TO "VOICE" IN STRATEGIC PLANNING: APPLYING HIRSCHMAN'S CONCEPT OF *EXIST, VOICE, AND LOYALTY* TO UNDERSTAND PUBLIC SUPPORT FOR PUBLIC EDUCATION

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Over thirty years ago, Harvard economist Albert Hirschman (1970) authored a treatise hypothesizing three choices for consumers of services delivered by lazy monopolies.[1] That work served to provide a significant new theory for understanding consumer response to decline in organizations, however—although its applications to public school settings were both logical and evident—it did not then, and has not yet, received much attention in the literature which undergirds the study of educational economics or educational finance. Although not extensively used in the consideration of educational planning or fiscal reform, conceptual constructs similar to Hirschman's have been used to support fiscal policy reform of other types of publicly supported services. For example, during the period of the mid-1970s through the 1980s, conservative policy-makers in many countries attempted to influence the improvement of public services through the incorporation of market pressures and free-market competition into a variety of publicly-supported endeavors (Schwartz 1994). Fundamental to these reforms was the commitment of policy-makers to deregulate governmental enterprises in a fashion that would change the behaviors of both consumers and public sector employees in order to improve the quality and cost of governmental services. Notably, public education was not among these finance reform endeavors. More significantly, the non-incorporation of the Hirschman hypothesis into the educational economics and finance literature, and the unsurprising consequent lack of attention given to this problem in the undergirding literature of educational policy and administration, has resulted in the fact that consideration of consumer behaviors within the public school's context of lazy monopoly have not been given due attention in the educational planning process.

In reporting results stemming from economic planning and policy reforms in four different countries, Schwartz identified three generally adopted policy-maker initiatives: (a) efforts to reduce real public cost, (b) efforts to reduce cost elasticity with respect to the gross domestic product, and (c) commitments to improved responsiveness to public criticism. One of the economic manifestations of these policy orientations—irrespective of either the real or perceived degree to which the aforementioned efforts were successful—were managerial behaviors that appeared to be more sensitive to employees' and consumers' expressions of dissatisfaction with service or product (Walsh, 1991). These efforts were, and similar efforts continue to be, bound by traditional economic constraints that are well described by the economic concept of *homo economicus*,

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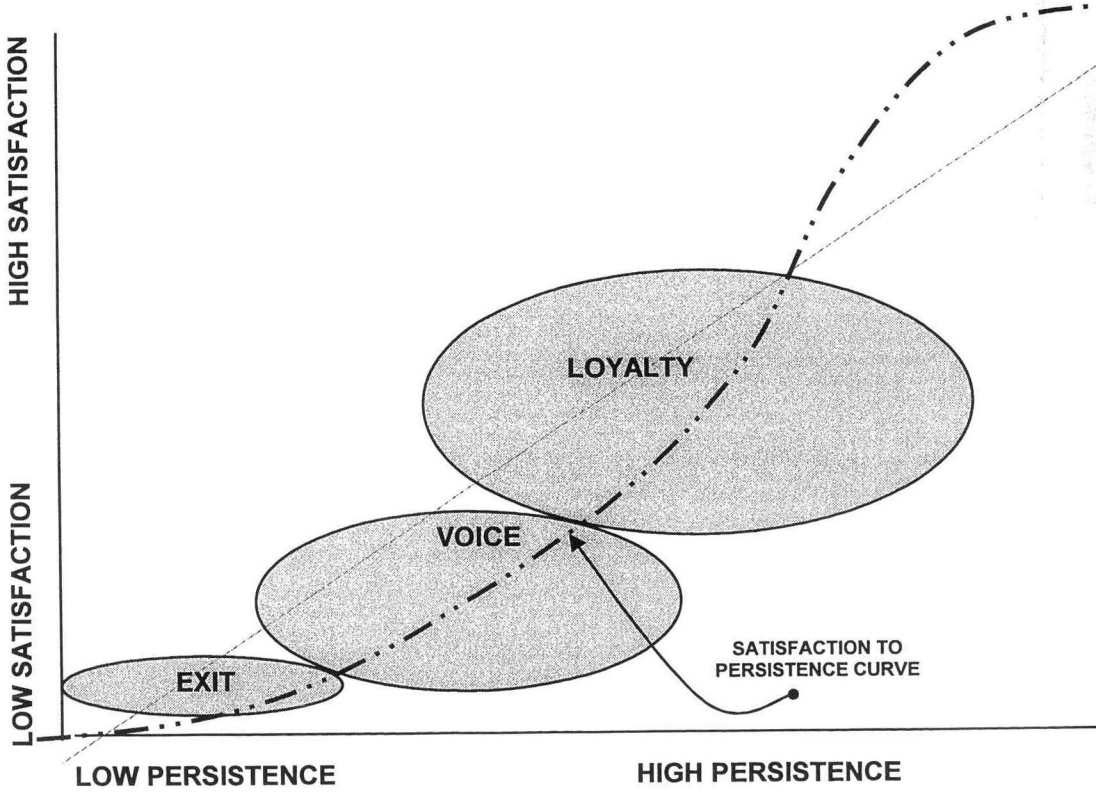
[1] *A lazy monopoly is any organization—including, but not necessarily limited to, public government—that has such limited competition for providing its service or product that consumers are realistically frequently prohibited from selecting an alternative sources for the service or produce sought.*

that is, the belief that human behavior is both rational and self-interested (Fehr and Gachter, 2000). Although originally applied to a rather restricted array of situations, Frank (1987) and Mixon (2000) have helped us see that the concept of *homo economicus* as manifest in self-interested fiscal behaviors can be applied to a wide-ranging set of economically influenced phenomena.

Considering the rational self-interests of *homo economicus*, the choices available to parents of public school pupils are appropriately characterized by Hirschman's concepts of *exit, voice,* and *loyalty.* Within this construct, individuals have three consumer behavior choices—(1) they can be satisfied with the goods or services in question and continue to avail themselves of its utility (*loyalty*); or (2) they can be so dissatisfied with the goods or services that they choose to abandon one provider for another (*exit*); or (3) they can be less than completely satisfied but continue to consume a particular goods or services from the same provider, while expressing their dissatisfaction to some various levels of degree of intensity (*voice*). A graphic depiction illustrating the interplay between school enrollment persistence and Hirschman's concepts of exit, voice, and loyalty is provided in Figure 1. The Satisfaction to Persistence Curve which is highlighted in the illustration—we believe—demonstrates that the most significant proportion of public school parents are satisfied with both

FIGURE 1: UNDERSTANDING THE PRODUCTIVE RELATIONSHIP OF PARENT SATISFACTION TO ENROLLMENT PERSISTENCE LOYALTIES



the programs and policies of local public schools. (The rather overwhelming satisfaction of parents with their children's local public schools in validated by the recurring positive ratings reported in several consecutive years of the Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools [Rose & Gallup, 2001].) Within the acceptable to high range of satisfaction on the Satisfaction to Persistence Curve, parents demonstrate loyal and supportive behaviors for the work of teachers in local public schools.

Public school districts have been slow, if not reluctant, to respond to consumer voice. (Perhaps because consumers' judgments about the quality of PK-12th grade schools are very subjective, or perhaps because many professionals believe that the lay public is unqualified to make informed judgments about educational quality, parents and the broader communities have been—in many localities—ignored except at certain critical times when the school district sees it as in its own self-interest to cultivate positive public opinions [e.g., at times of school millage elections].) Although schools may be slow to respond to *voice*, Behrman and King (2001) found that parents did voice responses to school reorganization issues and—in those instances where alternatives existed—the most dissatisfied parents exercised alternative choices. If slow to respond to voice, however, public schools have been even less significantly influenced by exit.

In contrast to the public schools, when consumers perceive a diminution in the value of any particular good or service provided by a free-market private enterprise, the likelihood of exit (i.e., choosing an alternative provider) is considerable. Obviously, competitive business enterprises respond to this threatened loss of income. (Failure to do so often results in Chapter 11 K-Mart-like financial scenarios, while cross-town business rivals such as Target prosper.) Parents of students enrolled in public schools, on the other hand, typically have had little or no alternative service provider choice. Even in instances where non-public school alternatives are available, the alternative choice is frequently either sponsored by a group which is objectionable to the parent (e.g., schools with particular religious sponsorships) or it is so expensive as to make the choice unrealistic.

However, the historic lack of competitive education providers cannot continue to be a reassuring fact for public school personnel and policy-makers. In 1991, Minnesota became the first state to establish charter schools as an alternative means of funding and organizing the delivery of public education. Within ten years 35 other states had followed suit. New York adopted legislation in 1998 which provided for the creation of state-supported charter schools. These free and innovative, state-supported schools—the enabling charter school legislation requires that charters demonstrate commitment to educational innovation and high academic standards—have proven to be most attractive in urban settings. Although the targeted number of 100 new charter schools was not achieved during the initial year of charter school legislation, this deficiency was less a function of non-interest than it was a result of high standards being established as conditions for obtaining a charter.

In New York, three extra-school agencies are empowered to grant school charters: The New York Board of Regents (a statewide policy-making body with broad plenary responsibility for all levels of education, PK-university); the State University of New York, and The New York City Chancellor of Education. In addition, local school boards can provide charters for existing public schools that might wish to convert to charter school status. With the enabling charter school legislation providing ensurances of quality, each of the extra-school agencies has been strictly reviewing charter school applications for compliance; these strict reviews have, indeed, slowed the awarding of charters from what policy-makers originally expected.

During the two-year period of 1999-2001, 23 new charter schools began operation in the State of New York. From these operating charter schools, five schools were randomly selected for

inclusion in a study to identify determinants of choice among public school parents (King & Taylor-King, 2002). With the cooperation of school administrators, surveys were distributed to the parents of approximately one-third of the enrolled students in each of the schools. The survey instrument was designed to obtain information on (1) factors that influenced the decision to enroll in the charter school, and (2) the type of relationship parents had with the students' previous schools. Since school administrator concerns for parental privacy limited the means for survey distribution and follow-up, it was not possible to actually conduct targeted follow-up requests with specific non-respondents. One general reminder was distributed to the entire survey population approximately 10 days following the initial distribution. Of the total 145 surveys distributed, a total of 42 responses were received. Since three of these responses were from parents whose children had not attended a public school during the preceding year, a total of 39 useful responses were obtained; this represented a usable response rate of 26.9 percent.

The survey instrument included ten (10) items that were thought to represent phenomenon which might have contributed to parents' decisions to enroll children in a charter school. (These items were derived from three informal interviews conducted with a charter school administrator, non-charter public school administrator, and a parent.) Survey results are provided in Table 1.

With respect to the first category of responses, there was observed to be very little difference among participant responses across the items in the survey instrument. Furthermore, in identifying the degree to which each of the statements actually reflected to perceived existing condition in either the school of previous enrollment or the current charter school, most statements were adjudged to the participating group to be either at or slightly below the mid-point of the response range. Thus, for most items, the best overall description would be that they were slightly untrue of either the previous school or the current charter school (depending on how the item was worded). There is little information here that is so striking as to make any observations regarding enrollment motivations in charter schools. In fact, there is so little stratification among responses that few—if any—opportunities for further consideration leap from the page.

A notable exception involves the item which solicited opinions on the perceived fact and influence of the degree to which personnel in the previously attended public school were responsive to parental expressions of concern. Although this item ranked third among all items in the degree to which it was thought to negatively describe conditions in the previously attended school, neither its strength nor the range of responses was noteworthy. However, when rating this item for the degree of influence it had on the parents' decision to choose the
alternative charter school, it was ranked highest among all ten items. More notably, with a mean rating of 4.6 (on a five point scale of importance) it was the only item of the ten to receive a strength ranking of even above 4.0. Even more noticeable than that fact, the range of scores (as illustrated by the standard deviations) was far smaller than the ranges of all of the other responses. Thus, not only was this item adjudged to be first among the dissatisfiers that influenced the decision to transfer schools, it was more uniformly agreed to be a dissatisfier than were any of the other items.

Considering Hirschman's model of *exit, voice, and loyalty*, one can hypothesize that at least among this small sample of parents of charter school students, the failure of the previously attended public school to attend to parent's "voice" became an significant issue for parents. So significant, in fact, that when presented with an alternative to the previously attended public school they selected an alternative—the local charter school. Thus, the application of *homo economicus*—choosing between economic-influenced alternatives based on rational economic self-interests—is clear. As a matter of enlightened self-interest, school districts

can potentially generate broad public support, reduce enrollment losses to the exit phenomenon, and orchestrate reduction of critical voice (with a concomitant expansion of loyal support) through assurances of parental participation in on-going, widely inclusive strategic planning.

TABLE 1: RESULTS OF 36 RESPONSES TO SURVEY OF PARENTS OF STUDENTS ENROLLED IN CHARTER SCHOOLS

| | Response to, "How true is this statement?" (1= Low, 5= High) | | Response to" To what degree, if any, did this item influence you to choose a charter school?" (1=Low, 5=High) | |
|---|---|---|---|---|
| | Mean | s.d. | Mean | s.d. |
| 1. My child's charter school offers programs that weren't available his/her previous public school. | 3.1 | .79 | 3.8 | .78 |
| 2. I was dissatisfied with the overall type or quality of education my child was receiving at his/her previous public school. | 3.5 | .74 | 3.8 | .79 |
| 3. Personnel at my child's previous public school were not sufficiently responsive to my concerns as a parent. | 3.1 | .79 | 4.6 | .43 |
| 4. I was concerned about the behaviors of other children who attended my child's previous public school. | 2.8 | .87 | 3.3 | .90 |
| 5. Transportation to/from my child's previous public school was less convenient that it is now. | 2.4 | .84 | 2.8 | .98 |
| 6. Teachers in my child's previous public school seemed less concerned about my child as a person than do the teachers in his/her current charter school. | 2.7 | .87 | 3.2 | .84 |
| 7. Teachers in my child's previous public school seemed less concerned about my child's academic achievement than do the teachers in his/her current charter school. | 2.8 | .88 | 3.5 | .82 |
| 8. I did not like the teaching approaches that were used in my child's previous public school. | 3.0 | .71 | 3.6 | .64 |
| 9. There wasn't enough attention given to character and moral education in my child's previous public school. | 2.6 | .78 | 2.9 | .99 |
| 10. There weren't sufficient opportunities for parental involvement or engagement at my child's previous public school. | 2.4 | .82 | 3.2 | .90 |

The utility of strategic planning as a mechanism for institutional renewal is well documented (Prewitt, 2001; Krotseng & Zaccari, 2001). Furthermore, organizational renewal specialists have established conceptual structures which consider the centrality of political frameworks as being among those which are most critical to ongoing effective development of social or service institutions (Bolman & Deal, 1991). Clearly, one element common in most of the literature on strategic planning in educational organizations is that of stakeholder involvement (Barnett, 2001). That particular component of stakeholder involvement which has not yet been sufficiently attended to is the potential benefits to be derived from assuring participation by—and, furthermore, demonstrating attention to the thoughts and contributions of—those parental stakeholders who represent the population of "voice" among the three categories of public education consumers. While it is true that, within Hirschman's categories of consumer personnel (exit, voice, and loyalty), loyal service consumers comprise the majority of parental personnel, strategies which assure integration of the second largest category (those parents who express concern or dissatisfaction) may well have the effect of increasing support among those personnel and the subsequent effect of having them become loyalists to the organization.

The 2001 previously cited survey of charter school parents demonstrated that many who have selected this emerging publicly-financed educational alternative have done so because they felt disengaged or disenfranchised from their local public school. When designed with potentially disengaged parents in mind, inclusive strategic planning endeavors provide a opportunity to reduce parental frustration—and thus increase parental support—and, provide an opportunity to increase loyalty as well as reduce exit from the system.

References

Barnett, H. (2001). Successful K-12 technology planning: Ten essential elements. Educational Resource and Information Center document. (ERIC accession number: ED457858.)

Behrman, J.R., and King, E.M. (2001) Household schooling behaviors and decentralization. *Economics of Education Review 20*: 321-341.

Bolman, L.G., and Deal, T.E. *Reframing organizations: artistry, choice, and leadership*. San Francisco: Jossey-Bass.

Ferh, E., & Gachter, S. (2000). Cooperation and punishment in public goods experiments. *American Economic Review 90*:4, 980-994.

Frank, R.H. (1987). If homo erecticus could choose his own utility, would he want one with a conscience? *American Economic Review 79*: 594-596.

Hirschman, A. O. (1970). *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*. Cambridge, MA: Harvard University Press.

King, D.L., and Taylor-King, S. (2002). Using Hirschman's concept of "exit, voice, and loyalty" to understand public response to the charter school movement. A paper prepared for presentation at the 2002 annual meeting of the American Educational Finance Association, Albuquerque, New Mexico.

Krotseng, M.V., and Zaccari, R.M. (2001). The transformational power of strategic planning. A paper prepared for presentation at the annual meeting of the Association for Institutional Research, Long Beach, California. (ERIC accession number: ED456788.)

Mixon, F. G., Jr. (2000). Homo economicus and the Salem Witch Trials. *Journal of Economic Education 31*:2, 179-184.

Prewitt, V. (2001). Keeping score for organizational performance. *Performance Improvement 40*:4, 28-34.

Rose, L. C., and Gallup, A. M. (2001). The 33rd annual Phi Delta Kappa/Gallup Poll of the public's attitudes toward the public schools. *Phi Delta Kappan 83*:1, 41-58.

Schwartz, H. (1994). Public choice theory and public choices: Bureaucrats and state reorganization in Australia, Denmark, New Zealand, and Sweden in the 1980s. *Administration and Society 26*:1, 48-77.

Walsh, P. (1991). The State Sector 1988. In Boston, J., Martin, J., Pallot, J., and Walsh, P. (Eds.). *Reshaping the state*. Auckland, Australia: Oxford University Press.

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