Design Principles for Learner-Centered Schools:

Effective Strategies
For Closing the Achievement Gap

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There are two strategies for enhancing student strategic processing. These focus on providing opportunities for discussion of achievement and supporting student development of learning plans and self-assessment.

There are two strategies for addressing student development and individual differences. These focus on providing a variety of types of

rigorous activities and developing a deep understanding of pedagogy that supports differences.

There are three strategies that help in creating positive learning contexts. These include a focus on establishing an ethic of learning and collaboration, including cultural understanding in activities, and providing technologically rich learning environments.

There are many ways that data can be used to support the building of a learner-centered school. A data-driven model can both support decision-making and also help in bringing together key stakeholders to support the school model.

I. Introduction

According to National Center for Education Statistics (NCES, 2002) reports, during the 1970s and 1980s, the performance of African American and Latino youngsters improved. During the 1990s these trends changed with the gap in some areas even widening. For example, reading achievement among 17-year-old African Americans and Latinos increased through the 1970s and 1980s, but in the 1990s gaps widened. The patterns in mathematics achievement were similar. In mathematics, the gap between African American and White students narrowed until 1990 and the gap between Latino and White students narrowed until 1992. These gaps then widened (Haycock, 2001).

This indication of the widening of the minority achievement gap is widening is disturbing. Yet, educators don't need to be convinced that there is a minority achievement gap or that it's getting bigger. We see first hand the impact on our students and their families and know that something must be done. In addition to our individual professional practice as educators, there are also three societal reasons for addressing the achievement gap: a civic imperative, an economic imperative, and a social imperative.

Meeting these professional and social calls to address the achievement gap is daunting. The challenges often appear intractable. There are many outside factors that come to school with our students. Yet national averages are not destined to remain stagnant and they do not tell the whole story. Experience and research show that we can do something within our schools to help. Texas and North Carolina provide just two examples.

Texas and North Carolina, two states that have focused considerable effort on revamping their education systems, made steady progress during the 1990s. Latino eighth graders in Texas are 25 points, or the rough equivalent of two and one-half years worth of learning, ahead of similar students in Minnesota on the NAEP writing test. In mathematics, African American eighth graders from North Carolina are 17 points, or nearly two years, ahead of similar students from Michigan, (North Central Regional Educational Laboratories (NCREL), 2002)

Educators and researchers nationwide have been developing effective strategies for addressing the achievement gap. Research is beginning to show that when brought together in a school-based design, these strategies can form a model for creating a learner-centered school. Creating learner-centered schools helps us to keep our day-to-day work focused on children and on the civic, economic, and social imperatives of education. A learner-centered school is a school where all student needs are addressed and the potential of all students can be realized. We have chosen to present broad principles of design for learner-centered schools. We then nest within these principles strategies that we have identified from current research and practices that provide the most promising evidence of closing the achievement gap for minority and disadvantaged students.

II.   Why Educators Are Interested in the Achievement Gap

As educational leaders know, schooling plays an important role in a contemporary world. Our schools are charged with responding directly to the educational needs of a democratic society. There are three imperatives that our schools are called to address.

A Civic Imperative

"Until many more underrepresented minority students from disadvantaged, middle class, and upper-middle class circumstances are very successful educationally, it will be virtually impossible to integrate our society's institutions completely, especially at leadership levels. Without such progress, the United States also will continue to be unable to draw on the full range of talents in our population during an era when the value of an educated citizenry has never been greater" (College Board, 1999 p. 2).

Quality public education is a civil rights issue. As members of a democratic society, all families deserve a high quality education for their children. A quality education is one that supports the development of skills necessary to become productive members of society. This education must take into consideration the needs of diverse students and must support students in their learning and in the meeting of their potential. As a civic contract with children and families, education must be understood as developing strong and creative students, not limiting their potential.

> **Statistics**
>
> African American and Latino 17 Year Olds have skills in English, math, and science similar to those of 13 year old Whites. In addition, although gains have been made in both reading and math achievement, as the complexity of the skills increases, the gap between White students and minority students also increases (Haycock, Jerald, & Huang, 2001).
>
> In 2001, of all advanced placement test takers, 68.7 percent were White, 11.6 percent were Asian, 10.8 percent were Latino, and 5.0 percent were African American. There is an over-representation of African American students, particularly boys, in special education (National Black Caucus of State Legislators (NBCSL), 2001).

For minority students, this contract is not being met. Basic skills required to function in a contemporary and scientifically advanced society are not being learned. There are specific skills needed to be productive in an increasingly diverse, global, and technological society. Literacy, the ability to understand mathematical and scientific concepts, and the ability to communicate effectively in a variety of content domains are crucial.

An Economic Imperative

"Falling or stagnating incomes for most workers and rising inequality threaten American ideals of political "classlessness" and shared citizenship. Left unattended, the new inequality threatens us with a two-tiered society-what I have elsewhere called an "apartheid economy"-in which the successful upper and upper-middle classes live lives fundamentally different from the working classes and the poor"(Freeman, 1996/97).

An excellent education is essential to the life prospects of our children and families. As well, a qualified labor force is critical for participation in a diversified and global economy. The labor force and consumer base is increasingly made up of persons traditionally considered minorities. According to U.S. Census Bureau projections, by 2050, minorities will compose 45.5 percent of the population (U.S. Census Bureau, 2000). In addition, twelve of the most populated states (e.g., CA, FL, TX, NY, IL) are expected to reach a 50 percent minority population by 2010 (U.S. Census Bureau, 1996).

Statistics

In 2000 minority students graduated at different rates than non-minority students. Ninety one percent of White students and 94% of Asian students graduated from high school compared to only 87% of African American and 61% of Latino students (U.S. Census Bureau, March 2000).

Of 18- to 24-year-olds approximately 90 % of Whites and 94 % of Asians have either completed high school or earned a GED. Among African Americans, the rate is only 81 percent and among Latinos, 63 percent (Haycock et al., 2001, p.3).

African Americans are approximately half as likely as White students to earn a bachelor's degree by the age of 29; Latinos are only one-third as likely as whites to earn a college degree (Haycock et al., 2001, p3).

Currently, minority children comprise about one-third of the nation's more than 53 million school children in Grade K-12. In the next 15 years, the total minority school-age population is projected to rise in all states but Arkansas and Mississippi. And by 2040, non-Hispanic Whites will account for less than half of all school-age children. (NCREL, 2002)

The path to economic advantage has been and will continue to be an educated labor and consumer base. By the end of high school, students must be able to transfer these skills to the world of work or continued education. For minority students the chances of developing the necessary skills is limited.

In addition to skills, credentials also play a gate-keeping role for entry into most professions. In many fields, from engineering to school teaching, a bachelor's degree is the minimum credential. Advanced degrees are required for entry into many desirable professions, such as law and medicine. African American and Latino 10th grade students are still less likely to be enrolled in a College Preparatory Track than White and Asian students (National Center for Educational Statistics (NCES), 2000).

High academic achievement enhances a student's college and graduate school prospects. Top high school graduates are more likely than their average or below average counterparts to enroll in and graduate from college. With the pullback from affirmative action in several states, very high academic achievement is becoming even more important for underrepresented minority students who are seeking admission to highly-selective public institutions and who want to gain access to the opportunities for advancement that this entails (College Board, 1999). The economic imperative will not be met until the minority achievement gap is addressed and the transition of more minorities from school to work or to higher education is successful.

A Social Imperative

"I believe that teaching the skills and perspectives needed for real participation in a democratic society is one of the most revolutionary tasks that an educator committee to social justice can undertake. It is only through such education that we can hope to create a truly just society where the most disenfranchised of our citizens can gain access to the political power needed to change the world" (Lisa Delpit, 1995).

Statistics

When factoring in availability of computers in schools, physical access to computers has improved over the past ten years. Yet, studies show that 7% of teens and 16% of children still do not have access to computers at home or in school. Access to appropriate training for technological use and access to internet resources creates an even bigger gap in technological access between White and minority students and inner city and suburban students (Wilhelm, Carmen & Reynolds, 2002).

Ensuring that our students, regardless of background, are given opportunities to fulfill their social roles and responsibilities is crucial to the work of education. The complexity of a global society requires ever increasing communication and collaborative skills. The tools for effective communication and collaboration are made more complex with technological advances. In turn, the conceptual and problem-solving skills needed to function in a highly diverse and scientifically advanced society are today unprecedented. There is a need for educators to support higher-order thinking and help improve the technological and scientific literacy amongst all students.

III. Learner-Centered School Model

The civic, economic and social imperatives challenge principals and teachers to find new ways of closing the achievement gaps that have disadvantaged generations of children. There is considerable evidence to suggest that social, economic, and political forces have created the context of underachievement for minority and disadvantaged students. The extent to which additional resources are needed to address the underlying structural causes of underachievement cannot be ignored. Reducing the achievement gap clearly requires special resources. We believe that the fundamental issue that must be addressed by all involved concerns how equitable opportunities for achievement for minority and disadvantaged students can be incorporated into every aspect of their learning environment. Therefore, we searched for a broadly comprehensive

model that can be used by those seeking to insure that equitable opportunities for achievement are created for minority students. We believe that the Learner-Centered School model provides a useful framework for educators to develop new strategies to address the unique needs of minority and disadvantaged students.

Six Design Principles for Principals and Teachers
1. **Develop student knowledge base**
2. **Increase student motivation**
3. **Enhance student strategic processing**
4. **Address student development and individual differences**
5. **Create learning contexts**
6. **Use data in building a learner-centered school**

Students

Supporting Stakeholders

Parents   District Administrators & Personnel   Professional Associations & Groups   Community organizations

As part of the National Education Association supported *KEYS to Excellence for your Schools* project, the research of Murphy and Alexander (2002) highlighted five areas for learner-centered design principles. These areas include knowledge base, motivation and affect, strategic processing or executive control, development and individual differences, and situation or context. Because of the importance of using data to build a learner-centered school, we have added this as a key sixth principle. The design principles can be used to create learner-centered schools that reduce the achievement gaps that hinder minority and disadvantaged students from reaching their potentials.

The research and practices that we have outlined provide guidance for how these principles can, and have been, used to address the challenges teachers and principals face in closing the achievement gaps faced by minority students in our schools. We have described specific studies that show that when these principles are used to address unique challenges, the achievement gains to minority students are even greater than to those students already succeeding. We have brought together strategies that can better support effective school-based learning models. We present only a few of these strategies among the many that can be developed by educators committed to responding to the social, economic and civic imperatives to create schools where all students can achieve their potential.

IV. Learner-Centered School Design Principles for Teachers and Principals

We present six design principles and outline strategies for implementing these principles that highlight actions teachers can take and questions that principals must consider. We provide
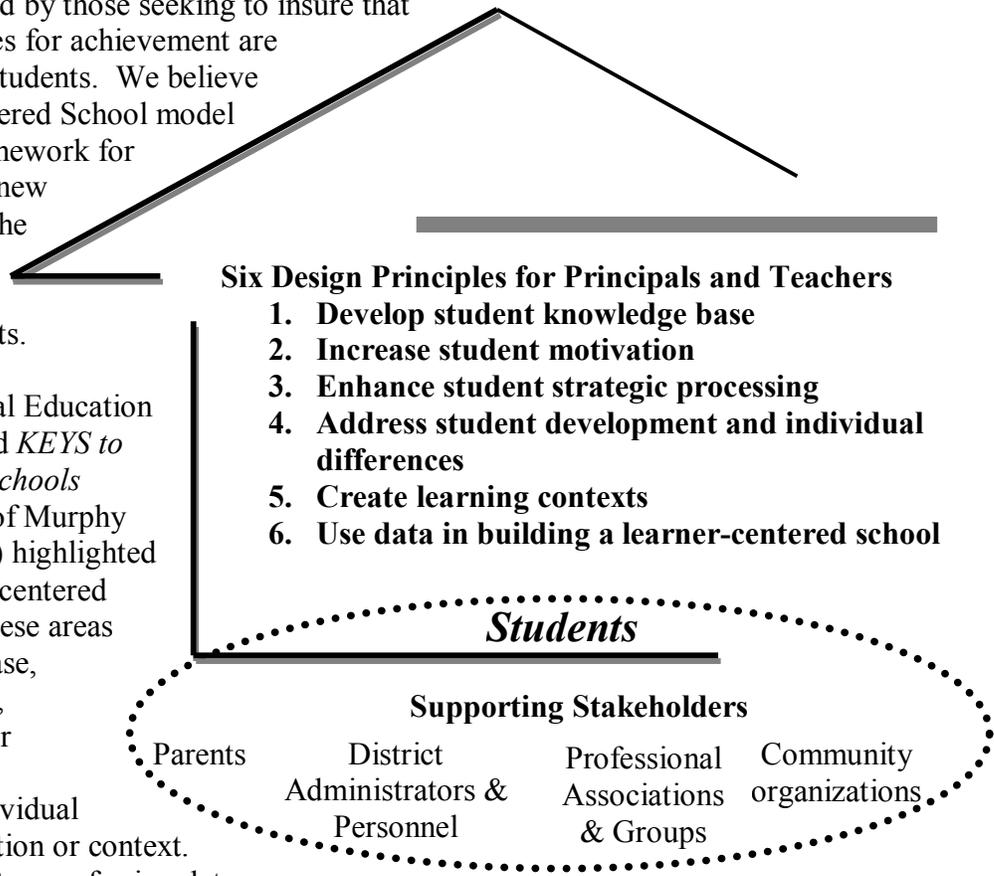
research and practice based evidence for why these strategies work. Our review of research focused explicitly on approaches related to minority achievement. We have sought out websites that provide additional guidance for teachers and principals seeking to develop deeper understandings of what it takes to close the achievement gap.

1. Design principle one: Develop student knowledge base

According to Murphy and Alexander (2002), the idea of knowledge base refers to a student's prior experiences, beliefs, and knowledge. "It serves as the foundation of all future learning by guiding organization and representations, by serving as a basis of association with new information, and by coloring and filtering all new experience" (p.12). There are four strategies for developing a student knowledge base. These focus on working with small groups, lengthening duration of interaction with students, utilizing targeted instructional interventions, and engaging with families. All are crucial to closing the minority achievement gap.

Develop student knowledge base: Strategy one

Teacher's actions
Work with small groups of students and provide one-on-one assistance on learning tasks.

Principal's questions
- What is the average class size for low-achieving students?

- Within classes are there opportunities for individual and small group time on specific tasks?

- Is additional support provided in larger classes in order to provide opportunities for students to receive individual assistance?

> Co-NECT schools are organized around small clusters of students who are taught by a cross-disciplinary team. Teaching and learning revolve around interdisciplinary projects that promote critical skills and academic understanding, as well as integrate technology.
>
> For information: http://www.co-nect.com

Why strategy one helps
Research on class size reduction indicates that reducing class size to below 20 students provides significant increases in achievement (National Institute on Student Achievement, 1999). For disadvantaged and minority students the effects of class size reduction are even greater than for non-minority and advantaged students (O'Connell, & Smith, 2000). Having attended smaller classes has been shown to increase the number of Black students obtaining college entrance exams and raise the scores on these exams. There is also evidence that Black students assigned to smaller class sizes are less likely to be convicted of criminal behavior than Black males assigned to larger classes (Krueger & Whitmore, 2001).

Class size reduction is thought to work for a number of reasons. Limiting class size allows teachers opportunities to provide more individualized attention. It also allows teachers a better

chance of working with each child's parents. Smaller classes allow for better relationships to form between students and for more attention to be given to establishing classroom routine (O'Connell, & Smith, 2000). Small communities hold promise for closing the achievement gap.

Develop student knowledge base: Strategy two

Teacher's actions
Lengthen possibility for and duration of interaction between teachers and same students and between cohorts of students.

The Institute for Student Achievement Project's intervention is structured as a small learning community comprised of a cohort of dedicated teachers and 9th through 12th grade students who remain together through students' high school enrollment.

For more information:
http://www.studentachievement.org

Principal's questions
- Are opportunities made for continued interaction between teachers and students from year-to-year?

- Are opportunities made for teachers to work on individual subject tasks during each day?

- Are schools small enough to allow for informal and formal interaction of students and teachers?

- Is space made for discussion to occur between teachers around quality of student work?

Why strategy two helps
Grasp of students' prior experience, beliefs, and knowledge depends on teachers, students, and their families being able to know one another well. The New York based Institute for Student Achievement (ISA) is just one example. Projects COMET (for middle schools) and STAR (for high-schools) combine principles of both high academic achievement and youth development through learning communities. In these schools, teachers instruct the same group of students for several hours a day or for two or more years.

Through intensive and targeted work with previously low-achieving students, the ISA projects are experiencing significant success. An independent study of the programs documented a positive impact on student achievement. The project began in 1990 working with a small group of students and now incorporates 2000 students. Monitoring over the history of the program indicates that over 95% of students who participated through four years of the program graduated from high school. Over 85% of students were accepted into college (ISA, 2002).

These strategies must be coupled with the appropriate matching of teachers and students so as to limit the potential persistence of ineffective relationships. Yet, when applied with an awareness of student and teacher interactions, these strategies hold promise for reducing underachievement of minority and disadvantaged students.

Develop student knowledge base: Strategy three

Teacher's actions
Utilize instructional interventions that are targeted to the needs of minority and disadvantaged students and do so as early in a student's academic career as possible.

Principal's questions
- Are there meaningful processes for teachers to gauge the prior understanding and needs of students?

- Are students coming to school nourished, secure, and ready to learn?

- Are families encouraged to take advantage of readiness programs?

- Are these programs perceived as connected with your school and your vision for learning?

For information on innovative parent support programs:

Parents as Teachers National Center
http://www.patnc.org/

Parent Resource Network of the Children's Defense Fund
http://www.childrensdefense.org/

The Parent Institute
http://www.par-inst.com

National Coalition for Parent Involvement in Education   http://www.ncpie.org

Why strategy three helps
Students come to school with differing needs, all of which may impact learning and achievement. Scores on the National Assessment of Education Progress (NAEP) indicate that achievement gaps among groups can be identified very early in schooling and then these gaps persist. There is evidence that "underrepresented minorities are not performing nearly as well as White students early in the first grade and that the very large gaps identified by NAEP develop rapidly during the first three years of school" (College Board, 1999, p.7). NCES' Early Childhood Longitudinal Survey (ECLS), an extension of the work of the National Education Goals Panel (NEGP), even suggested that the achievement gap can be observed as early as the first few months of kindergarten. Kindergarten achievement is related to the education level of the mother as well as other student risk factors. The study also shows that the achievement gap in reading and math actually widens during kindergarten (NEGP, 2001, p. 4-5). This research suggests that early interventions are essential to efforts for closing the achievement gap.

In 1994, the Administration on Children, Youth, and Families (ACYF) designed Early Head Start programs to enhance children's development and health, strengthen family and community partnerships, and support the staff delivering new services to low-income families. The national evaluation found that after a year or more of program services, when compared with a randomly-assigned control group, 2-year-old Early Head Start children performed significantly better on a

range of measures of cognitive, language, and social-emotional development (Head Start Bureau, 2002).

Joyce Epstein (1995) outlines the variety of ways that schools and families can partner with a focus on improved outcomes of children. According to Epstein, characteristics of successful partnerships include incremental progress, a connection to curricular reform, and an emphasis on staff development. She defines six types of caring or involvement that need attention in addressing the needs of all children. These include: parenting, communicating, volunteering, learning at home, decision-making, and collaborating with community. These foci can be supported through partnerships that bring together families, schools, and communities for addressing minority student achievement.

Develop student knowledge base: Strategy four

Teacher's actions
Engage with families of minority and disadvantaged students, in out-of-classroom interactions around educational issues.

Principal's questions
- Are opportunities made for out of school time for teacher-family interaction?

- Do teacher reward structures incorporate recognition for this type of work?

- Does teacher professional development incorporate this aspect of teacher practice?

- Are parents a presence within essential school functions?

- Are parents encouraged to utilize the school library, computer facilities, career counseling for their own learning and exploration?

Why strategy four helps
Developing out-of-classroom and out-of-school relationships with families provides teachers a better opportunity to build relationships and understand cultural values that may influence student success in school. Interactions outside of formal schooling events also allows teachers and parents to view each other as common in their concern for students without the tensions between familial and professional authority.

Center on School, Family and Community Partnerships at
http://www.csos.jhu.edu/p2000/center.htm

Coalition for Community Schools
http://www.communityschools.org/about.html

National Community education Association
http://www.ncea.com/

National Center for Community Education (NCCE) http://www.nccenet.org

Luis Moll attests that teaching can be aided by a teacher's understanding of the *funds of knowledge* that families provide for students (NCREL, 1994). Gonzalez (1995) supports that teachers conducting in-home visits with families of minority students helps teachers to better understand cultural aspects of student-lives and therefore supports effective teaching.

2. Design principle two: Increase student motivation

According to Murphy and Alexander (2002), motivation or affective factors include "intrinsic motivation, personal goals, attributions for learning, and self-efficacy as well as the motivational characteristics of learning tasks" (p.16). In other words, students who are more deeply interested in the topics, those who believe that they can learn, and those who come to view learning as meaningful to their goals, will have greater success in grasping academic concepts. There are three strategies for increasing the motivation of minority and disadvantaged students. These focus on engaging in dialogue, incorporating exploration into learning, and encouraging students toward high standards.

Increase student motivation: Strategy one

Teacher's actions
Engage in dialogue and activities that are respectful of student and family needs, choices, and dreams.

Principal's questions
- What tangible immediate benefits does the school have for a student's family life?

- In what ways is the school made meaningful to students' lives and life chances?

- What symbols and rituals are used to convey the meaning of schooling?

Why strategy one helps
Often children from low-income families must assist in the daily needs of the family. In environments with strong familial and communal association children may be expected to contribute in a variety of ways to the family. Assisting families in identifying outside resources to support family needs may help to relieve responsibilities of children and to lessen the need for children to contribute to family finances and functions (Schwartz, 2001). One approach is to design a full-service school that makes locating resources easier for parents and involves the school meaningfully in the matching of family needs with services (Dryfoos, 1994, 2002). Making schools visibly more meaningful to their family and community life and developing rituals that help support the meaning of their educational efforts may help in increasing the success of students who have been raised with a strong sense of familial and communal roles.

Increase student motivation: Strategy two

Teacher's actions
Incorporate exploration of the meaningfulness of education, the role of learning, and the work of schooling.

Principal's questions

- Is there a school-wide vision of success that supports student understanding of the purpose of their learning?

- Are there opportunities for student discussion of the meaning of their learning?

- Is there a clear message that student learning is the work of students?

- Are there opportunities for teachers to engage in dialogue about their own purpose as educators?

"Loma Terrace Elementary School offers a sequence of early intervention programs designed to help parents of infants and toddlers begin preparation for school. Indeed, every aspect of the Loma Terrace experience reflects the 'culture of success' at the school. No opportunity to encourage achievement is missed. Students are invited to express their aspirations on the 'dream boards' decorating the halls, and teachers regularly introduce materials and concepts that are up to two grade levels beyond the students' classifications. (Council of Chief State School Officers (CCSSO, 2002, p. 8)

- What opportunities are there for understanding peer-cultures and utilizing peer dynamics to support learning and academic support groups?

- What opportunities are there for out-of-class learning that is also financially supportive?

Why strategy two helps
Licata and Harper (2001) found a correlation between teacher perceptions of organizational health and their perceptions of a robust school vision. They assert that teachers who perceive that a school is healthy and there is a strong school vision are more likely to engage in professional activities that enhance student and teacher academic efforts. Teaching is also positively influenced when educational leaders find ways to support students in making meaning of their learning. Positive teaching is important because teaching effectiveness has been shown to directly influence minority achievement (Haycock, 1998).

In a study exploring the meaning of school in the lives of young African American men in the Detroit area, Price (2000) noted the connections that young men made between schooling and future success. He describes the ways in which one young man made sense of the high school diploma as a way of "making it" meaning financial security. Price describes that the diploma

came to mean a connection to employment that would not require a college degree. The meaning of schooling was situated within in the young man's outlook of his career possibilities.

In a study of a rural high school existing in a time of economic decline, Smithmier (1994) found that students themselves actively contributed to fostering a sense of community that supported the importance of school success. Students took part in constructing a school culture around values of cooperation and achievement. In doing so, they supported each other in achieving standards and created a positive schooling experience. Her research suggests that students utilized a collaborative ethic to mediate the potential negative impacts of tracking, limited resources, and lack of adult role models. They thus provided support and modeling and collectively found ways to see schooling as meaningful and to achieve at education perhaps in spite of economic prospects.

Increase student motivation: Strategy three

Teacher's actions
Encourage student learning by affirming possibility and setting high standards for all students.

Principal's questions
- What expectations are conveyed for student success?

- Are expectations set high for all students?

- What opportunities are made for praising positive behavior?

- Are opportunities made for including parents and communities in the celebrating of student success?

Why strategy three helps
Studies indicate that expectations of student success influence their actual success. Messages of lower expectations for certain groups may come across in ways as subtle as asking a student to identify race prior to taking a test (Rothman, 2001, p.11). Studies of high performing, high poverty schools in Texas, indicate that students with disabilities can be successfully incorporated into schooling while maintaining high standards (CCSSO, 2002). In addition to strong strategies for learning, the expectations conveyed, even in subtle ways, can have great impact on student achievement. Studies of Department of Defense Schools showed very high teacher expectations of student achievement. Arguments have been made that this is one reason that these schools show smaller achievement gaps (Smrekar, Guthrie & Owens, 2001).

3. Design principle three: Enhance student strategic processing

Strategic processing refers to one's ability to "reflect on and regulate one's thought and behaviors" (p.18). Learning is enhanced when individuals have knowledge of and apply

appropriate cognitive and meta-cognitive or self-regulatory strategies during the learning process. Students must be taught how to monitor their own learning and progress (Murphy & Alexander, 2000). There are two strategies for enhancing student strategic processing. These focus on providing opportunities for discussion of achievement and supporting student development of learning plans and self-assessment. These practices hold promise for decreasing the achievement gap.

Enhance student strategic processing: Strategy one

Teacher's actions
Provide opportunity to discuss, articulate, and showcase achievement of learning goals.

Principal's questions
- Are goals and indicators of success clearly articulated within classrooms and within the school?

- Are opportunities provided for presentation of student learning processes and abilities?

- Are students encouraged to develop the communication skills to share their learning and successes with others?

- Are teachers encouraged to engage collectively around addressing student understandings and needs?

> For links to a variety of instructional resources:
>
> Educational Justice Resource Page: www.edjustice.org/cgi-bin/resources.asp

Why strategy one helps
Stiggins (1999) asserts that student motivation and success can be fostered through the use of portfolios. He supports students compiling their work and reflecting on their work and he suggests that this process serves to "hold up a mirror that permits students to watch themselves grow." In addition involving students in communication of their own success (e.g. in student led parent conferences) helps students to learn to showcase their achievement. This communication process facilitates the sense of self-responsibility that students feel for their own progress. These approaches hold promise for teachers and principals seeking to create pathways to successful learning for minority students.

Studies of portfolio use in student learning discuss not only the benefits to student understanding but suggest that the use of portfolios can serve as a catalyst for teacher cooperation. Spalding (2002) observes that the use of portfolios prompted teachers to engage in more meaningful conversations about student work. The conversations also provided a space for teachers to share stories of their own teaching and to support a focus on the importance of student learning. Gap reducing strategies can be developed and shared when teacher conversations focus on using portfolios to gain more explicit understanding of the challenges faced by underachieving students.

Enhance student strategic processing: Strategy two

Teacher's actions
Support students in developing learning plans and self-assessment of their learning in relation to both articulated standards and their personalized development goals.

Principal's questions
- Are learning outcomes and definitions of achievement clear to all students?

- Are there school-wide opportunities for coaching and mentoring for all students and explicitly for minority and disadvantaged students in their learning?

- Are standards supportive of student learning of higher order thinking skills?

"They talk about teachers who often do not know the subjects that they are teaching… They talk about counselors who consistently underestimate their potential and place them in lower-level courses. They talk about principals who dismiss their concerns. And they talk about a curriculum, and a set of expectations that feel so miserably low-level that they literally bore the students right out the school door...The truth is that the data bear out what the young people are saying. It's not that issues like poverty and parental education don't matter. Clearly they do. But we take the students who have less to begin with and then systematically give them less in school." (Haycock, 2001 p 4-5).

Why strategy two helps
Teachers and principals can now develop strategies for more effectively using assessment approaches to seeking to close the minority achievement gap. Lorna Earl (2000) of the University of Toronto supports a no-surprises approach to using assessment as learning. She argues that expectations should be clear between students, teachers and parents but also should be open to negotiation. In addition, reporting must be more than providing a statement of success or failure. The use of information for learning is about an ongoing dialogue and adjustment. Higgins, Harris, and Kuehn (1994) found that even young children were able to participate in developing rubrics for their learning and also in applying criteria to the assessment of that learning. All of these practices hold promise for designing more effective strategies for assessment that foster the achievement of minority and disadvantaged students.

This approach is consistent with ideas of authentic learning. Authentic learning is "learning that has real-life value, functions as the cornerstone of mastering that subject, and is actively constructed by the student. It is learning that is used to solve problems and complete open-ended tasks" (Glatthorn, 1999). Glatthorn emphasizes the role of performance assessments based on standards and criteria that are known to parents and students. In combination with a teaching emphasis on higher-order thinking and problem solving, performance assessment can be a useful tool for engagement and ultimately excellence in student learning particularly for underachieving minority and disadvantaged students.

4. Design principle four: Address student development and individual differences

Learning progresses through common developmental stages that are influenced by both inherited and experiential or environmental factors (Murphy & Alexander, 2002). There are two strategies for addressing student development and individual differences. These focus on providing a variety of types of rigorous activities and developing a deep understanding of pedagogy that supports differences. These are critical strategies for principals and teachers seeking to close the achievement gap.

Address student development and individual differences: Strategy one

Teacher's actions
Provide a variety of types of rigorous activities for addressing shared curriculum. Place students in ability groupings only where absolutely necessary and then be sure to assess and alter groupings on an ongoing basis focusing specifically on increasing the opportunities for cooperative engagement of both achieving and underachieving students.

Principal's questions
- Are there mechanisms to help teachers in identifying student learning styles?

- Are opportunities made within heterogeneous groupings to address different learning styles?

- As developmentally appropriate, are there mechanisms for helping students to understand their own learning styles and develop strategies to adapt instruction to these learning styles?

- Are efforts made to continually assess and reassess students and group students according to both style of learning and ability in each subject area and regroup frequently based on success?

"I describe seven different ways in which one can approach rich subject matter. These range from telling stories (linguistic) or developing hands-on activities (bodily-kinesthetic), to putting on plays or dialogues (interpersonal intelligence). When, over time one uses several of these entry points, one reaches more youngsters and one also conveys what it means to be an expert—someone who can represent a topic in several ways. 'Multiple intelligences' do not just provide various entry points to a topic; they offer opportunities to draw comparisons or analogies from many different domains and capture the key ideas of a topic in a number of different symbol systems" (John Gardner in interview with Scherer, 1999).

Why strategy one helps
Success for All (SFA) is an elementary instruction initiative that began in 1987 in Baltimore and is used in approximately 300 schools, seventy districts, and twenty-four states. SFA preschool

and kindergarten programs emphasize language skills and pre-reading activities such as story-telling, music and art. A research-based early reading program begins in the second semester of kindergarten or in first grade. Students spend most of the day in heterogeneous classes. For ninety minutes a day, students from first to third grade regroup across grade levels and classes into classes that are more homogeneous in reading proficiency. The program not only increases overall performance, it helps low-scoring students the most. (Ferguson, 1998).

Also utilizing the understanding of learning styles can lead toward more effective teaching. Studies of African American, Asian, Native American, and Hispanic students show style influences on learning. Native American students tend to be more visually oriented in their understanding of information. Asian Americans demonstrated a respect for and obeying of authority figures. Hispanic students are shown to have an affinity to collective learning and African American students seem to be more kinesthetic in learning and to see things as relational or as whole rather than parts. Yet, Swisher and Schoorman (2001) emphasize that understanding learning styles and their possible cultural foundations should be a step toward individualizing learning rather than a further categorizing or labeling of students.

Students indeed may have different learning styles that when matched with appropriate teaching can help to promote success. Studies indicate that comprehensive grouping or tracking based on overall achievement can stigmatize students and give messages that little is expected from them. Students may have differing levels of ability in various subjects and may improve at different rates making stagnant groupings an isolating task. Continually reassessing and regrouping students according to progress may limit the stigmatizing and support achievement (North Carolina Education Research Council (NCERC), 2001, p. 6).

Address student development and individual differences: Strategy two

Teacher's actions
Develop a deep understanding of pedagogy that matches various learning styles so as to foster the increased achievement of disadvantaged students.

Principal's questions
- What opportunities are there for matching the most qualified teachers with students in need of effective instructional strategies?

- What opportunities are there for supporting the quality of teachers?

- What supports are needed to increase compensation for quality teaching?

National Commission on Teaching & America's Future: www.nctaf.org

National Education Association
www.nea.org

American Federation of Teachers
http://www.aft.org/edissues/teacherquality/Index.htm

Why strategy two helps
Studies are beginning to show positive

relationships between measures of teacher effectiveness and student scores (Haycock, 1998). In general, White children have experiences with better teachers. African Americans are assigned teachers with lesser qualifications. Longitudinal studies show that patterns of ineffective teachers can influence student achievement and that future effective teaching is not adequate for making up for ineffective teaching in prior years (NCERC, 2001, p 3-4).

Local control, principal leadership, and teacher quality all contributed to successful reform of Chicago area elementary schools. Parent-dominated local school councils had the power to hire and fire school principals. Principals were able to select competent teachers who could contribute to the vision of the school. Principals also received additional resources relative to the number of low-income students they served. Locally supported principal leadership emerged as a critical factor in the success of the reform. Factors of productive schools included leadership style (inclusive orientation and institutional focus on learning, leadership strategies) quick hits and long-term focus on instructional core, and issues of focus (strengthening parent/community ties to school and developing teachers' knowledge and skills). Studies of the reform show that in 1990, 25% of students met national norms in math and reading. By 1999, 35% did so in reading and 43% did in math (Sebring & Bryk, 2000).

> ATLAS Communities is a comprehensive school reform project designed around a number of strategies. Teams of teachers from groups made up of high schools and the elementary and middle schools, work together to design curriculum and assessments based on locally defined standards. The teachers collaborate with parents and administrators to set and maintain sound management and academic policies, ultimately resulting improved student performance.
>
> *For information see: www.edc.org/ATLAS/*

5. Design principle five: Create learning contexts

"Learning is as much a socially shared understanding as it is an individually constructed enterprise" (Murphy & Alexander, 2002). The social context of learning within a school can thus influence student achievement. There are three strategies that help in creating positive learning contexts. These include a focus on establishing an ethic of learning and collaboration, including cultural understanding in activities, and providing technologically rich learning environments.

Create learning contexts: Strategy one

Teacher's actions
Model an ethic of learning and collaboration that supports the achievement of minority students.

Principal's questions
- Are opportunities made for team teaching and collaboration around curriculum and student learning?

- Are opportunities made for teacher action research and inquiry into their own practices and student learning?

- Are supports provided for teachers to share their strategies through professional meetings and presentations?

Why strategy one helps

Engaging in action research on their own practice provides teachers opportunities to reflect on the challenges and successes of their students. It also allows opportunities to systematically align one's own practice with the realities of the classroom. Engaging in action research with other teachers can support effectiveness and establish a culture of learning where student needs are kept at the center. Anderson, Herr, and Nihlen (1994) suggest that engaging in action or practitioner research allows teachers a chance to explore their own multiple roles in the classroom. This exploration supports teachers in thinking deeply about their work and also about the experiences of their students. Involving students in raising questions important to them, (e.g. the prevalence of racism within schools), can serve as an empowering approach to both teacher and student learning.

Trusting engagement with educators that care about their experiences and learning and who also model through their own inquiry can support student success. In a study of teachers engaging in research to understand their own practice, Zeichner noted that teachers report having developed more confidence in their work, feeling a greater sense of control over their practice, seeing themselves as more proactive in addressing difficult challenges, and becoming more analytic and focused on the impact of their teaching (1998). This active engagement of teachers in learning supports the unique learning needs of minority students.

Create learning contexts: Strategy two

Teacher's actions

Bring cultural understandings into classroom activities in a way that showcases the strengths and contributions of various cultures.

Principal's questions

- Is consideration given to student teacher matching based on cultural similarity or effectiveness of teachers with specific cultural groups?

- Is professional development provided to support teachers in incorporating cultural understandings into curricular materials and approaches?

- In what ways can community-based organizations provide support for students and enhance cultural understanding for educators?

Why strategy two helps

Cultural norms and values influence student understanding of schooling as well as the ways in which they learn. For example, a strong culture of communal rather than competitive interaction and commitment to family needs may influence the expectations of Latino students and their educational priorities. Finding ways to understand and incorporate cultural values into schooling is important to increasing the success of Hispanic students (Schwartz, 2001). Schools that celebrate cultural diversity are thought to be more conducive to student learning (Scribner & Scribner, 2001).

As well, a study by Barhardt & Kawagley (1998) suggested that culturally responsive pedagogy resulted in higher school achievement and morale for Native American students. The study was based on the work of the Alaska Rural Systemic Initiative (AKRSI). AKRSI is organized around five initiatives: Native ways of knowing/teaching, culturally aligned curriculum, indigenous science knowledge base, elders and cultural camps, and village science applications. Entering its third year, the AKRSI has contributed to a decrease in the dropout rate and increases in student achievement scores; the number of rural students attending college; and the number of Native American students pursuing studies in fields of science, math, and engineering.

To help provide support for language and cultural minority students, some schools are also having success through partnerships with community-based organizations. Community-based organizations can help bridge the differences between classroom life and home life for children of immigrant parents (Adger & Locke, 2000). Community organizations can be utilized as "cultural guides" to help school professionals in understanding the wide variations that exist across cultural groups in areas such as communication, role delineations, authority perceptions and gender and age expectations (Bruns & Corso, 2001).

Create learning contexts: Strategy three

Teacher's actions

Construct classrooms that are technologically rich and encourage minority student engagement with that technology.

Digital Divide Network http://www.digitaldividenetwork.org Benton Foundation Learning Connection http://www.benton.org/Library/Schools/ Community Technology Centers' Network (CTCNet) http://www.ctcnet.org/	**Principal's Questions** • What technological resources are made available to students? • What assistance is provided to teachers for effective incorporation of technology into the curriculum? • What types of learning styles are supported by technological inclusion?

- What resources are available for incorporating computer technology into the family life of students?

Why strategy three helps

The Global Learning and Observations to Benefit the Environment (GLOBE) program allows students to follow detailed data collection protocols for measuring characteristics of their local atmosphere, soil, and vegetation. Using GLOBE Internet-data entry forms, thousands of students submit data to a central archive, where it is combined with data from other schools to develop visualizations—a data map showing measured values and their geographic locations—that are posted on the web. Technology can provide conditions that research indicates are conducive to meaningful learning. These include: "real-world contexts for learning; connections to outside experts; visualization and analysis tools; scaffolds for problem-solving; and opportunities for feedback, reflection, and revision." (Means, 2000/01). Achievement of minority and disadvantaged students can be fostered by teachers and principals who create paths of access and opportunities to engage in these technologically enriched learning activities.

6. Design principle six: Use data in the development of learner-centered school

A successful school-based model supports an understanding of these learner-centered strategies as they are interdependent and intertwined. Through ongoing reflection on information obtained about the areas above, educational professionals can help in supporting the achievement of minority and disadvantaged students.

A school-based model for effective learner centered strategies is one where schools engage in continual learning as well. Researchers emphasize that a one-size-fits all approach should not be our focus. Rather schools should engage in collecting data that can tell if specific programs are working to meet the needs of specific students (D'Amico, 2001). The use of school data or indicators is not sufficient in itself. Indicators are only as useful as the ways in which they are used. Most importantly, data is helpful as part of school improvement processes (Lashway, 2001). There are many ways that data can be used to support the building of a learner-centered school. A data-driven model can both support decision-making and

"A rapidly growing number of schools have made a momentous discovery: When teachers regularly and collaboratively review assessment data for the purpose of improving practice to reach measurable achievement goals, something magical happens." The Results Fieldbook: Practical Strategies from Dramatically Improved Schools. (Michael Schmoker, 2001).

also help in bringing together key stakeholders to support the school model. To adopt a data-driven school-based model for closing the achievement gap, schools require system support including both financial and human resources.

V. What is the Role of Other Stakeholders in Supporting the Design of the Learner-Centered School?

The networks that support student learning exist well beyond the classroom. Schooling occurs within professional systems as well as social contexts. There are things that students, parents, boards, community organizations and system administrators can do to support school-based strategies for addressing the minority achievement gap. A full description of these is beyond the scope of this report. Yet it is

"Every Person lives in a web of multiple networks. Each employee of your school and each person in your greater school community is part of his or her own networks. When you identify the connections that give meaning to an individual's life, you can discover new avenues for rapport and trust" (Wagner, 1992, p.31).

appropriate to provide some beginning questions and resources that can help in gaining support for your emerging school-based model for achievement.

In the 2001-2002 school year, the Harford County Public School System in Maryland is engaging in an effort to utilize Study Circles to engage parents and community members in efforts to close the achievement gap (Magna Awards, 2002). For information on Harford County efforts contact Cathy Price, supervisor of equity and cultural diversity 410-638-4610.

For information on developing your own study circles to support education, contact Study Circles Resource Center (860)-928-2616 or www.studycircles.org

Support from students

Students are often an overlooked source of support for schools. Yet students can be a valuable resource for supporting the vision of learning. Wagner (1992) discusses students as networkers. Her outlining of the ways students can support school programs prompts the following questions:

➢ What types of feedback can student offer about the success of school programs?
➢ What types of networks do student have and how can these support the school-based vision?
➢ What influence do students have with adults outside of the school and how can this influence be utilized to support learning?

Support from Parents

Teachers often express apprehension about greater parent participation in school, yet parents are a rich source of information about the instructional needs of their children. Parents also bring fresh perspectives to the school about priorities for education and more specific causes of students' response to instruction. When parents value the instruction being received by their children, they also become the most powerful allies of teachers.

- What time, informational, financial and political resources do parents have to offer the school?
- How can we communicate with parents about our educational vision?
- How can we make our school more inviting to parents who may have had few or negative experiences with schools?
- How can we learn to communicate effectively with parents from different cultural or socio-economic backgrounds?
- What opportunities exist for parents to contribute in meaningful ways to decisions about education?

Support from local community organizations

A variety of local organizations have vested interests in the success of schools. Partnerships with community organizations can provide valuable supports to students, can bridge cultural differences, and can be helpful in directing resources to the needs of particular student populations.

- What interest might local groups have in supporting education?
- How do I contact and communicate with these groups?
- What might these groups contribute to the learning of our students?

Eleven key leaders, including district superintendents, college presidents, community organizations, the mayor, and county judge formed the El Paso Collaborative for Academic Excellence. They focused on a high quality standards-based curriculum, preparing the best teachers, leadership committed to achievement, engagement of the broad community.

From the base year 1992-1993 through 1997-1998, the program showed a decrease in the number of low-performing schools, an increase in the identification of exemplary schools, an increase in student achievement and a narrowing of the achievement gap. The success of their efforts came from addressing multiple issues that influence achievement gaps (Navarro, & Natalico, 1999).

Support from professional associations, unions, and centers

Teacher and staff unions can be engaged in supporting the vision of excellent schooling.

- What professional associations for staff, and teachers should be involved in decisions about schooling?
- What educational issues are important to these groups?

Support from System administrators

The relationship between principals and teachers and system administrators can be key to supporting a school-based vision for education that engages parents, professional associations, and communities.
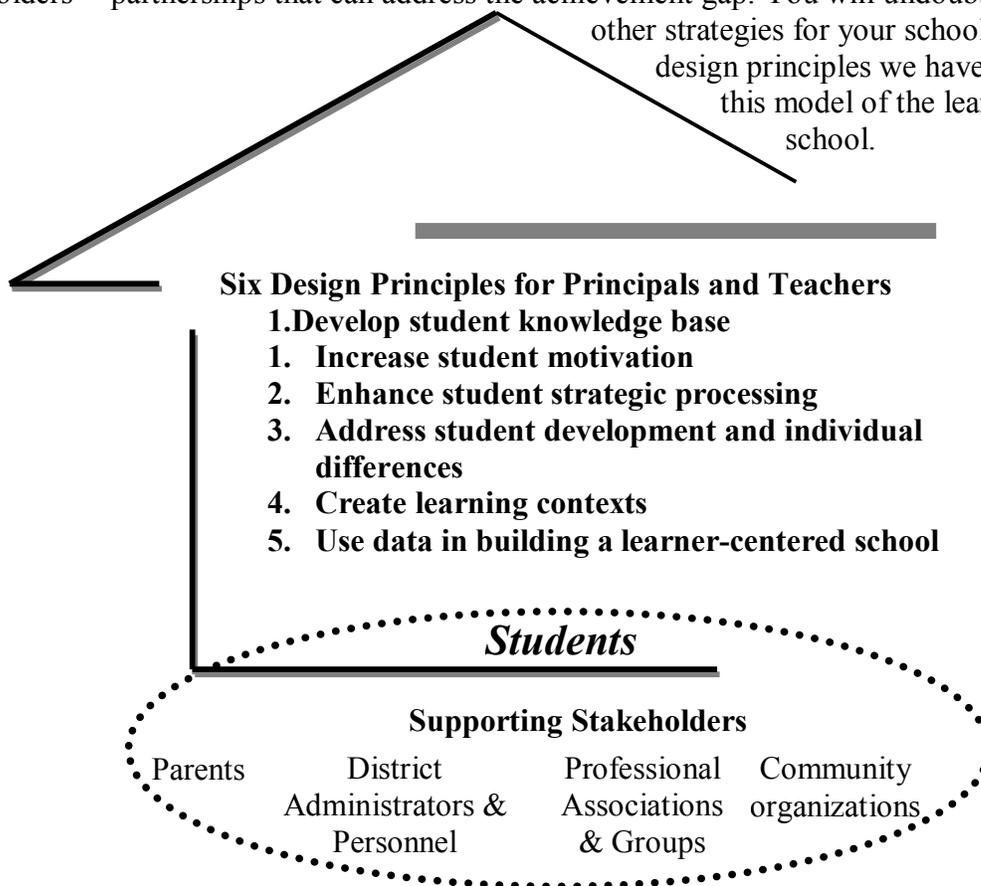
- Who might share in the mission of your school-based model?

- ➢ What professional roles and responsibilities do they have?
- ➢ How might you connect with these individuals?
- ➢ What specific assistance can they provide to support your model?

VI. Conclusion:

Civic, economic, and social imperatives drive the commitment of educational leaders to constantly seek new strategies to address achievement gaps.

We have used the model of the learner-centered school as a framework to house strategies for closing the achievement gap. These strategies grow out of six design principles. We have presented each strategy as including teacher actions, principal questions and have provided links that can be used to gain additional support for effectively addressing the minority achievement gap. We have also described the roles that other stakeholders can play in supporting the development of learner-centered schools in their commitment to providing equitable opportunities for minority and disadvantaged students. Students, parents, professional associations, unions, local community organizations and system administrators all have important roles in working with teachers and principals as they devise strategies to close the achievement gap in their schools. Exciting and productive partnerships can be formed with these stakeholders -- partnerships that can address the achievement gap. You will undoubtedly develop other strategies for your school based on the design principles we have outlined in this model of the learner-centered school.

Six Design Principles for Principals and Teachers
1. Develop student knowledge base
1. Increase student motivation
2. Enhance student strategic processing
3. Address student development and individual differences
4. Create learning contexts
5. Use data in building a learner-centered school

Students

Supporting Stakeholders

| Parents | District Administrators & Personnel | Professional Associations & Groups | Community organizations |

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