the OAKES newsletter

An Independent Monthly Dedicated To Improving Public Education
Helen Oakes - Author and Publisher

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SWEEPING CHANGES NEEDED

In the last few years, many have expressed grave concern for the quality of public education. As a result, numerous steps have been taken towards improving the quality. Last May, an influential and important analysis was published citing the necessity to effect further and more fundamental changes. Titled "A Nation Prepared: Teachers for the 21st Century," * it was drafted by the Task Force on Teaching as a Profession. This Task Force was established by the Carnegie Forum on Education and the Economy which is a program of the Carnegie Corporation of New York, a major philanthropic foundation. The Task Force included executives of large corporations, the presidents of the two national teachers' organizations, past and present governors and top state education officers. The work of this Task Force may be compared to a Carnegie-supported effort in 1910 which led to the institution of rigorous professional preparation for physicians, sweeping changes in the medical schools, and the transformation of medical practice in the United States.

"A Nation Prepared" is based on the premise that if the United States is to have an economy that provides jobs and a decent standard of living for its people, it must have a highly educated work force that performs tasks meriting high wages. In the past, the United States has relied on unskilled and semi-skilled workers using machines of mass production to produce goods that were in demand. Now, other countries have similar machines, much lower labor costs and, even with transportation charges, can produce goods for far less. To compete, Americans would have to accept wage levels like the Korean workers cited in the Carnegie report who produce home video recorders and earn $3000 a year working twelve hours a day 363 days per year. If America's standard of living is to be maintained, most of American business will have to be based on the use of highly skilled workers utilizing the most advanced technology. This will require "a vast upgrading" of the work force which will necessitate a rebuilding of the educational system. According to "A Nation Prepared," it "is no exaggeration to suggest that America must now provide to the many the same quality of education presently reserved for the fortunate few."

If the United States is to prosper, it will need a work force of creative, problem-solving people who "have the tools they need to think for themselves, people who can act independently and with others, who can render critical judgment and contribute constructively to many enterprises, whose knowledge is wide-ranging and

* Available from Carnegie Forum on Education and the Economy, P.O. Box 157, Hyattsville, MD 20781.

whose understanding runs deep."

"A Nation Prepared" makes the strong point that job preparation aside, there are compelling reasons for rebuilding our education system. We must provide "equal opportunity for all our children" and, if we are to maintain our democratic society, we must have a population that is able "to make informed judgments about the complex issues and events" of our time and that is bound together by "access to a shared cultural and intellectual heritage..."

For students to develop the qualities and attributes, previously described, their teachers will have to possess them and act as role models. That means that public education must be able to recruit the brightest and the best into teaching. For many reasons this is going to be very difficult. The need for teachers will escalate dramatically by the early 1990's because the nation has an aging teaching force and we can expect about half of today's teachers to retire or leave for other reasons within the next six years. Meanwhile, the pool of potential teachers is shrinking as the opportunities for women, Blacks and Hispanics to enter diverse occupations increase and fewer of them choose teaching. In addition, teaching lacks the power to attract the country's best. The profession has lost the position of high respect that it once held. Teachers are not paid well in comparison with other professions and they are not rewarded for excellence. The authoritarian, bureaucratic environment in which they work implies that "they have no expertise worth having."

To attract the country's most able college graduates, teachers will have to be viewed and treated as professionals and teaching must be restored to the pedestal that it deserves. There is no other occupation that has the potential to contribute so much to an individual's success and happiness and to the country's political, social and economic future.

Producing knowledgeable, creative, resourceful, and independent people will require changed schools as well as teachers of high caliber. "A Nation Prepared" devotes several pages to painting an illustrative picture of one such school. It differs greatly from today's schools in which the curriculum rests primarily on facts taught through lectures and textbooks, and learning is judged in large measure by tests with multiple choice questions or blanks to be filled in.

THE PLAN

"A Nation Prepared" outlines a plan whose goal is to provide "a system in which school districts can offer the pay, autonomy and career opportunities necessary to attract to teaching highly-qualified people who would otherwise take up other professional careers. In return, teachers would agree to higher standards for themselves and real accountability for student performance."

The plan has eight elements:

* "Create a National Board for Professional Teaching Standards...to establish high standards for what teachers need to know and be able to do, and to certify teachers who meet that standard." This is the first element of the plan and among the most important. There would be two kinds of certificates. The Teacher's Certificate would establish a high standard for teachers entering the profession. An Advanced Teacher's Certificate would indicate that a teacher was highly competent and capable of providing leadership. Certificate holders would be recognized as highly-qualified and therefore should be sought after and well-compensated.

* "Restructure schools to provide a professional environment for teachers..." If teaching is to compete with other professions, teachers will have to be treated in the same manner as other professionals. Lawyers, accountants and architects have autonomy on their jobs, are presumed to know what they are doing, and to have the judgment to make decisions. They are provided with support staff so that their valuable and expensive time can be devoted to their professional roles. None of this is true for teachers. In most schools, teachers do not make or participate in the major decisions about instructional methods and materials, the use of staff, or the organization of the school day. They don't even have access to secretarial services to produce test questions or copies of primary source documents.

* "Restructure the teaching force, and introduce a new category of Lead Teachers with the proven ability to provide active leadership in the redesign of the schools and in helping their colleagues to uphold high standards of learning and teaching." Giving Lead Teachers, drawn from those with an Advanced Teacher's Certificate, such a role would create a career path worth pursuing. Responsibility for instruction would be vested in these Lead Teachers and they would "guide and influence the activity of others, ensuring that the skill and energy of their colleagues is drawn on" and that the school becomes a place where staffs work cooperatively together to promote student learning.

* Convert the education degree, now usually an undergraduate one, into a graduate degree with a masters in teaching following four years of study in the arts and sciences. It takes more than four years to secure a thorough grounding in the material of the subject or grade to be taught, the necessary professional preparation, and a liberal arts education of adequate breadth and depth.

* "Develop a new professional curriculum in graduate schools of education..." Graduate programs would "take maximum advantage of the research on teaching and the accumulated knowledge of exceptional teachers." Candidates would serve as interns and residents in outstanding public schools which would work closely with schools of education and be analogous to teaching hospitals.

* "Mobilize the nation's resources to prepare minority youngsters for teaching careers." There is great concern expressed in "A Nation Prepared" for assuring proportional representation of minority teachers on school staffs. New, higher standards could reduce the proportion of Black and Hispanic women and men in teaching, "not for lack of ability, but because the schools have failed to provide and demand what was needed for success." Black and Hispanic teachers will be badly needed by the increasing percentage of minority children who will be entering schools in the future. To produce even the minimum number needed, there will have to be great increases in the percentages graduating from high school and college. This means that existing programs serving poor and minority children that supplement and enrich their education or provide support, motivation and inspiration will have to be greatly strengthened and expanded and new ones will have to be developed.

* "Relate incentives for teachers to school-wide student performance..." so that there is a reason for all to pull together to benefit the entire student body. "A Nation Prepared" cites the im-

portance of providing incentives for teachers if there is to be a major improvement in teachers' performance and students' progress. At present there are no rewards for the hard-working teachers who, for example, pour over student compositions in the evening, nor for the schools that produce more learning than others.

* "Make teachers' salaries and career opportunities competitive with those in other professions." This would serve to attract and retain people. To encourage high performance and good results, "A Nation Prepared" recommends abandoning today's salary schedules based on years on the job and graduate credit. They would substitute compensation systems reflecting major differences in pay based on a teacher's level of responsibility, his or her level of certification, years of teaching experience, and contribution to improved student learning. This would encourage teachers to accept more responsibility, strive for the Advanced Teacher's Certificate, stay in teaching and work hard for more student learning.

"A Nation Prepared" views the eight listed elements as a package. "None will succeed unless all are implemented." For example, people will be unwilling to undergo a longer, more costly preparation for teaching unless the profession provides a work environment and a salary schedule competitive with other professions requiring like preparation.

"A Nation Prepared" has import for all of us because we live in an interdependent society. For example, we know from a study of the statistics that portray changes and trends in population that the proportion of older Americans to younger has changed dramatically. In 1950, there were 17 workers who contributed through social security to the benefits of each retiree. Six years from now that will have dropped to only 3, and one of the three will be Black, Hispanic or Asian-American. Clearly, the financial well-being of tomorrow's retirees is directly linked to public education's success.

I have devoted this issue of the Newsletter to "A Nation Prepared" because of the great importance of the problem it delineates and the quality and value of its plan for "sweeping changes in education policy." Each of us has a role to play in the implementation of this report and a big stake in the outcome.

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THE IMPORTANCE OF MUSIC EDUCATION

In 1983, Riccardo Muti, renowned conductor of the Philadelphia Orchestra, wrote an eloquent statement expressing his views on the importance of music education. He said:

"Music is more than a hobby, an entertainment or a pastime for the elite. It is part of the soul of every human being. Music speaks to us in a way that words cannot, to our feelings as well as to our thoughts.

"Throughout history men and governments have recognized this power of music and the other arts, and have tried to control them. Restriction of artistic freedom is unfortunately one of the most potent weapons some governments still use today.

"That is why a free country has a special responsibility to nourish this vital aspect of its culture. By giving children and adults the opportunity to develop their understanding of the language of music and their sensitivity to it, we reinforce the ideals of democracy and freedom.

"If we choose, however, to push music aside and to neglect its development in our youth, we are doing more than denying a privilege. We are stunting the spirit, and that is nothing short of barbaric."

If the maestro's views were translated into practice in the school system, all children would have an opportunity to experience music and to learn about it. At present, children in some schools in Philadelphia are offered a rich, high-quality music education. There are desegregation magnet schools where music is a major component of the program and serves to attract an ethnic mix of students. There are many schools where outstanding music teachers give children an understanding and love of music, develop the talent of their students, and bring the school's performing groups to a high level of excellence. Unfortunately, in contrast, there are some schools which lack specialists and offer little music. There are additional schools that lack a choir and/or provide little opportunity to learn to play an instrument, thus reducing the chances of discovering and fostering talent.

In preparing for this newsletter, I visited some exemplary programs and talked with some exceptional teachers. Virginia Lam, the music teacher at the Reynolds Elementary School, demonstrates what enthusiasm, creativity, high standards, commitment and dedication can stimulate and bring into being. Reynolds is a grades 1-6 school in a deeply impoverished area of North Philadelphia. Each year in late spring, the children put on a very high quality Broadway musical produced by Ms. Lam. She works with Leon Evans who is a professional Broadway dancer. He volunteers his time to share in

the original planning and to serve as director-choreographer through intensive rehearsals leading to opening night and acclaim.

Reynolds also has performing groups that practice throughout the year. There is a choir of from 60 to 80 voices. 35 students play easy-to-learn instruments. 50 students participate in a drumming group which I was intrigued to watch and hear. They sit cross-legged, their upper body movements synchronized and choreographed, and use two sticks to drum on the wooden floor.

Membership in the performing groups leads to growth in the students' ability to produce a high quality sound and to understand music. Equally as important, many of these children find little fun or happiness outside of school, so participation in these groups serves to lift their spirits and gives them a strong incentive to come to school. It also gives them an improved self-image.

Virginia Lam gives very generously of her time. She rehearses many hours per week with the children and takes groups of them to concerts and plays during the year. She is compensated for only a small portion of the time involved.

Ms. Lam meets each class at Reynolds for a 45-minute period of music once a week. On the day of my visit, she worked with twenty-nine kindergarten children first. At this time of year, in following the Standardized Curriculum, Ms. Lam is emphasizing rhythm. She led the children through a series of activities. They clapped in time to a patriotic tune and then sang the words. In time to Ms. Lam's piano playing, the children in succession clapped, patted their knees, snapped their fingers, and stamped one foot. "Eensy Weensy Spider Climbed Up the Water Spout" was sung with accompanying gestures. The children marched to music played on a tape recorder while playing instruments such as a tambourine and wood block in time to the music. In Ms. Lam's class that day, the children were experiencing rhythm with their bodies. When it is time to learn musical notation and its meaning, they will already have experienced quarter and eighth notes and it won't be a rote exercise, but something they truly understand.

For her 4th grade students, Ms. Lam had written on the blackboard that music moves in 2's, 3's and 4's and she had put up examples of each. She played examples on the piano and the children identified the one she was playing. The students clapped a "4", placing an accent on the first beat so that they clapped loud, soft, soft, soft to the music. One student with a tambourine played one of the patterns of rhythm that were also on the board and the children decided whether they were listening to 4 quarter notes or a combination of eighths and quarters or quarter notes with rests in between. It was clear that these students have learned well in their once-a-week classes and are developing their ability to hear musical distinctions and to feel the music.

I visited Overbrook High School which is a music magnet and heard its excellent concert band and orchestra rehearse. I had the opportunity to talk with some of the able young musicians. Most had started playing while they were in elementary school and had become more serious about their instruments as they advanced through the grades. In several cases, School District instrumental teachers had recognized their ability and encouraged and helped them to pursue avenues of development such as private lessons, attendance at the Settlement Music School, or participation in the Temple University Community Youth Orchestra.

The students stressed the importance to them of competition. One violinist in the All-City Orchestra was motivated to strive harder because she aspired to move up to the first string section. Others mentioned the competition for places in the seven district orchestras that perform annually at the spring festivals.

TWO KINDS OF SPECIALISTS

Music education in the School District is delivered by two different kinds of specialists. There are vocal/generalists who teach students to understand and appreciate music. They also form and lead the vocal groups and the groups that play simple-to-learn instruments such as the recorder. There are also instrumental teachers who teach students to play the more complex musical instruments and form them into ensembles or orchestras for performances. They also, of course, add to students' knowledge of music and help them to understand it more fully and enjoy it more.

Vocal/generalists may be found in 85% of the elementary and secondary schools and are almost always full time in a single school. Full time instrumental music teachers are on the staffs of about 60% of the high schools, but only 20% of the middle and junior highs. In each of these cases, principals have elected to offer music and to have one or more specialists on their staffs.

In the elementary schools, the instrumental music teachers are there part-time. They are attached to the central music division and assigned by it. The amount of service varies from 0 to 3½ days per week depending on the interest of the children, the musical instruments available, and how much the school promotes and supports the activity. In the past, almost all of the music division's instrumental teachers were assigned to elementary schools. During the 1960's, junior high schools began dropping their full time instrumental teachers. Because the music division knew this hiatus in instruction would lead to a loss of student interest and a drop in musical proficiency, it took some of its teachers from the elementary schools and assigned them to meet a portion of the need in the middle/junior highs. As a result, there are many elementary schools which have no instrumental music teacher and many more where the service is much less than it should be.

In addition to lacking teachers, the number of instruments is inadequate. In the 1960's, the School District budgeted $100,000 per year to purchase instruments. Then came 17 years of NO money in the budget for this purpose. Last year, $35,000 was spent for instruments and this year funds are promised again. Home and School Associations in the more affluent areas of the city have replaced worn out instruments. In the poorer communities, this isn't possible. If there is a dearth of instruments, there is little reason for an instrumental teacher to come to a school. Interest wanes and a downward spiral is in motion. Spending more money for instruments will help to reverse this.

The State Board of Education requires that music be offered every year during elementary school. In schools with no music specialist, the responsibility falls to the classroom teachers. This must result in great disparity in the quality of the program offered because, never having studied the subject, many of today's teachers are limited in their ability to teach music.

At the secondary school level, the schools must offer two courses in music to students in grades 7-12 and students are required to have two units of credit in the

arts or humanities or both in grades 9-12. Music courses fulfill these credit requirements, as can choir and orchestra, so that should a principal decide to have a music teacher or teachers on staff, s/he need not be squeezing an extra position out of a tight allotment for teachers, but simply electing to provide students with the opportunity to earn arts credits in music.

Music, together with all of the arts and the other humanities, is strongly backed by Superintendent Constance Clayton and the Board of Education. Unfortunately, this is not clear to music teachers and other advocates of music who have suffered from severe cuts in the music program over a long period of time and often see the value of music unsupported and unappreciated at the local level.

If perceptions and reality are to change, action should be taken. One important step would be to establish minimum standards so that principals have to offer a specified level of service. This is the only way to guarantee the rights of all students to receive a music education that at least meets minimum standards wherever they attend school in Philadelphia.

Riccardo Muti's powerfully expressed thoughts provide the major reasons for supporting a quality music program. However, there are additional compelling reasons. Participation in a vocal or instrumental group proves to youngsters that there is value in making strenuous efforts to reach a goal, a lesson which can be carried over to other aspects of their lives. Such participation, which provides many opportunities for youngsters to excel, helps them to develop their self-esteem.

Because students enjoy playing and singing, these activities provide an incentive to come to school and may serve as the deciding factor on some days when a student would otherwise stay home. In a society where so many youngsters become involved in self-destructive activities, musical performing groups and the practice required counter this by offering constructive activities that serve to occupy many hours that might otherwise be idle ones.

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As Riccardo Muti put it, music is "part of the soul of every human being." His words should inspire a renewed commitment to support a strengthened and expanded music program.

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ADOPT-A-STUDENT PROGRAM ENHANCES LEARNING

At the Andrew Jackson Elementary School, staff members have "adopted" 57 youngsters. Called "Adopt-A-Student," the program has made a great difference. Children make better adjustments and are happier. Discipline cases and suspensions have been cut almost in half. Staff members have a more effective means of showing that they care about students. There is a general recognition that the school is a better place for learning and teaching.

A profile of the grades 1-8 student population at the Jackson School in South Philadelphia would resemble that of many other schools in the City. Just over 50% of the students come from low income families which means the adults in their lives face the additional problems and stresses that come with struggling to survive poverty. Some Jackson students have a parent that abuses alcohol or other drugs or is very ill. Some are abused. Some come from such chaotic family situations that one wonders how they can concentrate and learn at all. 15% of the students are in special education so a good many face the frustration of difficulty with learning. Coming from these backgrounds, it is not hard to understand why some children are disruptive in school. Other children who cause problems simply have not learned to exert self-control or settle disagreements in a non-physical way.

The idea for adopting students came from the School's Discipline Committee. The purpose was not only to reduce fighting, other behavior problems, and the resulting suspensions but to improve the climate for learning in the school. The Committee theorized that if staff members established rapport with misbehaving students, they could provide guidance and assist the students to find ways to solve problems or work out relationships without being disruptive.

Some adoptions took place in the fall of 1984. In 1985-86, the program was expanded and given more structure. This year, 83% of the teachers, as well as several other staff members, have adopted one or more students. Grade teachers recommend students for the program. Originally, they only referred behavior problems but now they also include students who would benefit because they are shy and withdrawn. The Discipline Committee compiles a list. It then pairs each child with a staff volunteer, keeping in mind that some children and adopters have already chosen each other.

The Discipline Committee suggests weekly meetings with adoptees at a time when adopters can give their undivided attention. The student's classroom teacher makes arrangements for a mutually acceptable time for the get-togethers. Staffers use the lunch break, preparation periods, before

and after school, and recess time.

Although one might expect non-adopted students to feel cheated or envious, this is not the case. They seem to understand that "adopted" students have special problems and needs which merit this special attention. However, there is a rule against grade teachers adopting a student in their own room because those circumstances could be perceived as favoritism and cause difficulty.

ESTABLISHING A RELATIONSHIP

Each staff member has a unique way of working with his or her adoptee. In addition to conversation and games, some staffers involve their adoptees in classroom chores which they enjoy such as washing the blackboards or straightening up the classroom library. Some teachers find their adoptees are intrigued by the activities going on in the classroom and, for example, want to learn how to make the holiday decorations that are on display or be interviewed on the tape recorder so they can hear how they sound. In an effort to make their older adoptees feel useful and important, some teachers enlist them in marking papers or helping younger children.

Some staffers occasionally take their adoptee out to lunch or to a school-related event. Some see their adoptees outside school from time to time and take them to athletic events, concerts or museums. Some include them in family activities which can result in the adoptee gaining an "extended family." Some give their adoptees small gifts or necessities that they lack.

Some staff members at the Jackson School have always befriended a child who needed an adult's interest and guidance. The Adopt-A-Student program formalizes this relationship and expands it to involve many more children and staff members. A few examples will clarify how it works and what it means to children. James was constantly in trouble. He acted out in class, tripped children, and instigated fights. He was befriended by the school's secretary and later she "adopted" him. James often spent time in the office at lunch time or after school. The secretary taught him to answer the phone and file. She found he had a very nice way of comforting children who came to the office with problems. Gradually, James' self-image changed. As his appraisal of his self-worth increased, his need to cause trouble decreased and he was able to stay out of difficulty. At the same time, his grades improved substantially so that when he graduated he was eligible to attend one of several high schools.

Don is an upper-grade student. In class, he consistently found ways to needle and disturb other children. His classroom teacher recommended him for adoption believing he would benefit by having someone in school give him affection and extra attention. An aide selected him. He has served Don in two important ways. He has provided him with someone in school who is available during the day to hear his problems and talk them over. He has also interceded with his mother and helped her to handle Don differently. Now Don's mother allows him to tell his view of an incident. She takes him aside to discipline him rather than doing it in front of other children which used to humiliate and anger him. Don's adopter keeps stressing that he must develop self-control if he is to capitalize on his considerable academic ability. His classroom teacher knows that if he reverts back to his old self, his adopter is available. Problems can be handled before they escalate to something significant. Don knows that his adopter is on his side and wants

him to succeed. He is very much aware that someone cares about him and is watching his progress. His classroom teacher reports that his behavior has improved greatly.

Linda also was a troublemaker. Right after she was adopted by a teacher, her misbehavior was cut in half. In the beginning, her adopter sent for her early each day to get a report on how things were going. She needed a daily reminder that someone cared about how she was faring and whether she was staying out of trouble. Gradually, Linda's adopter was able to lengthen the time between reports. Linda learned to be in much better control of herself.

THE BENEFITS

I talked to eleven staff members at Jackson School who have adopted students. All are enthusiastic about the program and its many benefits. Adopt-A-Student serves to reduce classroom misbehavior and results in an improved climate for learning. There are many fewer occasions when teachers must interrupt lessons and lose precious minutes disciplining students and restoring order. Adopt-A-Student links a student with an adult who is always pressing for academic improvement. This provides strong motivation and makes students work harder as they strive to please their adopter.

Staffers spoke of the great reward in knowing that they have held out their hand to a child and by giving of themselves have profoundly affected that child's future. Often they can clearly see that they have made a difference. In some instances, an adoption results in abrupt and amazing change. Other children, over a period of months, cease being the discipline problems they once were and can apply themselves to their studies. The student that the secretary worked with could have continued to get poor grades and experience little but failure. Instead his grades improved, he applied to a school that he wanted to go to, and he was able to keep open all future doors of opportunity.

For some students, Adopt-A-Student is a lifeline. For others, it provides needed support. Adopters become advocates, mediators, friends. They represent a person who cares, a shoulder to cry on, an ego-booster, someone to confide in.

Several staff members talked about the atmosphere in the school being a warmer one. Staff and student body are more closely knit. One teacher of older students on the third floor was heartened when he was warmly greeted on the first floor by his six-year old adoptee and his friends.

One staff member pointed to a change in staff attitudes. No longer are teachers complaining about having "x" or "y" in their class. Teachers do not meet and exchange disparaging remarks about difficult children. Since almost all have adopted a student, they are more focused on helping students succeed in school. The entire staff is united in this cause and works hard for it. The school has an ambiance of caring and love. One teacher said that she has new enthusiasm for her job because there has been a subtle change in the focus and behavior of both students and staff and the school is a more humane place in which to work. Others expressed the view that feeling good about their school and their relationships with one another reduces job-related stress and releases more energy for helping children to learn.

Jackson School's principal, Mrs. Rhonda Lauer, credits her staff with the success of Adopt-A-Student. That is as it should be. However, she has provided strong leadership by adopting students herself and by treating the staff

as she would have them treat students. She has high expectations and standards. She shows respect for her staff members and commends them for work well done. She provides support, insight and assistance to those who need to improve their skills. She is thoughtful and considerate.

Adopt-A-Student is a creative and effective program that is helping the Jackson School staff devote its energy to the school's major mission which is academic achievement. Led by Mrs. Lauer, the staff has sought to develop challenging annual goals for improvement in each subject area. For example, this school year, the goal for mathematics is to have 10% more of the students in every grade demonstrate a significant improvement in their problem solving skills. Problem solving has been identified nationally as an area of great weakness and one of great importance.

Mrs. Lauer has spearheaded a drive over several years to improve the quality and quantity of student writing. In late spring each year, this effort culminates in a Writing Fair. The school is filled with exhibits of the students' best work. At an all-school assembly with outside speakers, students in every grade who have either done the best writing or improved the most are recognized and given awards.

One good measure of the Jackson School's success comes from examining the instructional reading level of last year's 8th graders when they were ready to graduate. 71% of the students were at, or above, grade level which indicates they were well prepared to tackle the prescribed work in their first year of high school. Almost all of the remaining 29% were at a 7th grade level and not very far behind.

The Adopt-A-Student program is worthy of praise and emulation. It serves as a way to improve behavior, a child's self-image, and his or her desire to learn and to succeed. Rhonda Lauer has forged a team effort at Jackson School to create a better climate for learning, enabling students to concentrate on their school work and to achieve academically.

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THE MILDLY HANDICAPPED - THE FOCUS SHOULD BE ON INSTRUCTION

Passed by Congress in late 1975, The Education for All Handicapped Children Act had several major purposes and spurred profound changes. It sought to secure educational services for all handicapped children — those previously denied service like the profoundly impaired and those for whom there had been almost no specialized services such as the learning disabled. It sought to ensure that children would be correctly identified and placed, and then would receive appropriate services.

Advocates for handicapped children used task forces, suits and many other means to press the School District of Philadelphia to fulfill the Act's mandate to identify the children who needed special education services, develop procedures for placing them correctly, open classes for them, and reevaluate children as required. The result has been that more children are receiving service and they are being identified differently. There are over 29,000 special education students today which is about 8000 more than eleven years ago even though the total student population has decreased by more than 22%. Learning disabled and emotionally disturbed are greatly expanded categories with a much smaller proportion of students being identified as mildly retarded.

This newsletter is devoted to the "mildly" handicapped who make up a very large proportion of the total special education population. They are the mildly retarded, the learning disabled and the emotionally disturbed. If the mentally gifted students are subtracted from the special education pool, these mildly handicapped students represent 75% of the total enrollment.

In preparation for writing this newsletter, I visited several schools and observed classes for the mildly handicapped. I talked with teachers, counselors, and school and special education administrators. I learned that improvements have been made since 1976, but much remains to be done. Because more students are being identified as mildly handicapped, more have been placed into special education classes of fifteen or less. In general, in these classes, teachers understand their students' problems, have empathy for the difficulties they face with school work, endeavor to build their self-esteem, and try to make them more highly motivated. In these smaller classes, teachers are able to create a better environment for learning, bolster a student's view of himself, and give the more individualized attention that is needed.

There has also been great improvement in the procedures and documents developed to provide identification and placement of

handicapped youngsters. The multiple steps of testing and evaluation, meetings, and decision-making have become routine. Children are being placed in special education in a period of time which has been reduced to acceptable levels.

Those are the positive things that can be said about special education for the mildly handicapped. The negatives revolve around the lack of success of the academic program for these students. Contrary to expectation, very few students leave and return to regular education. While there has been very little examination of the achievement of these students, where it has been studied very little progress has been found.

Philadelphia is far from alone in creating what has proven to be only an illusion of quality instruction for the mildly handicapped. Although the specific reasons vary, this is a national problem recognized by school districts and special education administrators in many places.

CERTIFICATION

One major reason for the lack of achievement in Philadelphia has to be the lack of instructional expertness that is required in Pennsylvania to be certified to teach special education. Pennsylvania gives a generic certification in special education at the successful completion of a four-year approved college undergraduate program. This permits an individual to teach both elementary and secondary students whether they are retarded (mildly to profoundly), or learning disabled, or emotionally disturbed, or physically handicapped. Most mildly handicapped students have great difficulty with reading and mathematics, yet their teachers may become certified with as little as a single one-semester reading or mathematics course. Obviously, that is totally inadequate. Also, in contrast to regular education teachers, special education teachers are permitted to teach secondary school subjects such as biology and American history without ever having studied them in depth.

Learning disabled and emotionally disturbed students have average intellectual capacity or above and should, with few exceptions, be able to earn a high school diploma based either on the regular curriculum, or an adapted one which is somewhat less demanding. Most of the mildly retarded should also be capable of completing the courses required for a diploma. All of these students have a right to be taught by teachers who know their subject matter and also have special skills for teaching them. Unfortunately, certification in Pennsylvania doesn't recognize this right.

All of the teachers whose classrooms I visited are experienced in working with mildly handicapped students. It was clear that they care deeply and enjoy working with their students. Yet for them to appreciably raise the achievement levels of their students is extremely difficult under present circumstances. The range of age and achievement levels in each class is much too great for efficient teaching and teachers receive little or no assistance with individualizing instruction to meet the needs of the students assigned to them.

Students are assigned to classes based on their age, their identified handicap, the amount of time each day they are deemed to need special education, and available space. Depending on her age, a student who is learning disabled and needs assistance with all of her academic work will be assigned to a class either of younger or older learning disabled students

at the elementary school with space nearest her home. Since consideration is not given to a student's level of achievement or her degree of difficulty in learning, the assignments result in a great spread in both of these areas, as well as in the ages of the students.

The wide range in age forces special education teachers to attempt to cover several curriculums. For example, a teacher with a typical class of 9 to 12-year-olds is supposed to teach the 4th, 5th, and 6th grade curriculums in science and social studies. That's nearly impossible to do especially with problem learners who also have ranges of achievement in reading and mathematics that are very great and require grouping and teaching at several levels. The days aren't long enough. Also, a teacher must make plans for the other students in the class whenever she is providing instruction to a small group. Most often this results in students working with an aide or by themselves in work books which by their nature focus on drill and practice. Too much time spent filling in blanks and circling the right answer is monotonous and divides learning into such dull bits and pieces that students loose interest.

MIXED CATEGORY

The subdividing of the mildly handicapped into multiple categories makes assignment to classes relatively automatic and simple. However, it results in the unworkable teaching situations described. To overcome this problem, beginning at the high school level, the district is changing over to the use of "mixed category" classes. These are classes which may include any proportion of any category of the mildly handicapped. At first glance, it appears as if this would also lead to a poor teaching situation, but the fact is that these students are more similar than they are different. They share serious learning problems. Most are frustrated and suffer from low self-esteem. Many have poor attendance, lack self-motivation and resist investing themselves in their work. In addition, many bear one label, but display symptoms of other categories too. Many emotionally disturbed youngsters have some learning disability. Many learning disabled or mildly retarded youngsters have become so frustrated that they are emotionally disturbed.

The "mixed category" classes allow more flexibility in assigning students and permit grouping by similarity of academic needs so that teachers can work more effectively. Central administrators give this as the primary reason for the change to "mixed category." Unfortunately, this homogeneity, which would represent a valuable change, hasn't happened in many high schools. Many staffs are not committed to making this change. They need to be won over, given clearer and more forceful direction, and monitored.

By Federal regulation, each student in special education must have an "individualized education program" which must include such information as present levels of achievement, annual goals, services to be provided, and evaluation procedures. Surprisingly, it doesn't have to include a statement of strategies and techniques to help that particular student learn and progress. Classroom special education teachers are not trained in college in ways to meet students' individual learning problems and the School District hasn't assigned personnel to routinely provide teachers with such information. John's teacher is not told that he learns best using his hearing so that listening to tapes of what he is reading will help

him. Mary's teacher is not informed that she has so much difficulty with handwriting that she should do her composing on a typewriter. Also, although her reading level is very low, she can understand difficult material if it is read to her.

The great expansion of special education was whipped along by despairing parents who enlisted lawyers and other advocates to assist them in getting service for their children. The School District responded by focusing on placement and evaluation and writing individualized education programs. It is past time to change this emphasis. The concentration should shift to presenting the curriculum in a way that will engage the minds of these students and help them develop particular learning skills. Special education students shouldn't proceed through the day shifting from adding numbers, to writing paragraphs, to studying health. Their study of nutrition and the four food groups, for instance, provides many chances to write and calculate. There is the recording of the foods that the students like that constitute balanced meals for a day. What must be purchased to prepare these meals? A trip to a supermarket or perusal of food ads enables students to learn the cost of their menu. Students taught this way can convert good nutrition into something meaningful for themselves. There is incentive and motivation to write, to spell, and to learn arithmetic facts. Learning is more concrete and is better absorbed.

It is unfortunate that parents believed that placement in special education with its smaller classes, individualized education program, and instruction by special education teachers would lead to a quality education for their children. It could still happen if students with similarities in learning needs were grouped together, the individualized education program outlined instructional strategies, and special education teachers were better trained. As the Act has been implemented so far, students are less frustrated but mostly because of lowered demands and teachers who exhibit greater understanding. The goal must be to prepare these young people to lead successful, fulfilling lives after high school. Only the greatly increased learning of which they are capable will enable them to meet this goal.

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the OAKES newsletter

An Independent Monthly Dedicated To Improving Public Education
Helen Oakes - Author and Publisher

Vol.XVIII, No.5 Philadelphia, Pennsylvania February 1987

HOW CHILDREN SHOULD BEGIN THEIR LEARNING

This newsletter is about kindergarten and the way that so many children start their schooling. It's a subject of importance because it relates to issues such as critical thinking, the desire to acquire knowledge, and dropouts.

There is agreement among educators that the year spent in kindergarten should prepare children for first grade. Children should gain experience in getting along with others; increase their ability to express themselves verbally; learn to listen, follow directions and conduct themselves in a disciplined way; and develop their hand-coordination and dexterity. Their self-esteem should be boosted and their interest in school should be fostered.

Opinions differ when it comes to academic goals and the best way to reach them. The large majority of Philadelphia teachers, bolstered by their interpretation of the standardized curriculum, believe that they should strive to teach children a number of skills. Children should recognize their name and print it, know the alphabet and the sound of each letter, read some words, recognize some coins; identify colors, shapes and the numbers from 1-9; and have neat handwriting.

A small number of teachers takes a very different approach. They believe that the first step in learning to read and write is coming to understand that spoken and written language conveys meaning. The squiggles on the printed page stand for words that are strung together to make sense. They believe that young children learn through their play and are motivated to learn by their desire to make sense of their environment. They want children to understand mathematical concepts. They want them to value books and know that they give pleasure, contain information, and can extend their knowledge of the world.

The comments and illustrations that follow are drawn from visits to five kindergartens that provide examples of both approaches to teaching. All had highly experienced, deeply committed, caring teachers.

In the vast majority of kindergartens in Philadelphia, the following is part of what a visitor would typically see occurring during the half-day session. Children gather on a rug in front of the teacher for group activities. There is an enlarged version of the month of March posted next to the teacher with the days that have passed crossed off. The teacher asks what day it is today and the children answer in chorus, "Thursday." What day was it yesterday? What day will it be tomorrow? Many children don't know the answers. In response to dictation from the group, different children write on a big piece of paper. "Yesterday was Wednesday.

Today is Thursday, March 5, 1987. It is sunny." The teacher asks "And what else?" The children respond in unison "Cold."

The children recite some nursery rhymes and sing. Taking attendance provides an opportunity to work with the children on their first and last initials and to do some arithmetic. 3 absent boys plus 4 absent girls means that 7 children are absent. Counting three raised fingers on one hand and adding four from the other gives the sum.

A record is played and the children sing along and make appropriate gestures as the voice sings "T is for teeth we brush every day" and "U is for umbrella" which they pretend to hold over their heads. In response to flash cards with the letters of the alphabet on them, the children in unison name the letter and give its sound.

Flash cards are used to practice colors and shapes. One series contains a color and its name and another features simple shapes.

The children go to their seats and copy on lined paper the "story" that was written earlier. Many write neatly by this time in the year. Next, they fill in the blanks on an arithmetic worksheet.

There is a short choice time when children may opt for one of the following: sandbox, water play, blocks, paints, clay, doll corner, books, games, arts and crafts, puzzles, and toys with many pieces to fit together or with which to build. In some classrooms, children's choices on most or all occasions are limited to the second half of the list. Sample school district schedules for the typical half-day kindergarten call for reading to children every day but state that because of time limitations, it may have to be during the fifteen minutes that children prepare for and have a snack.

INAPPROPRIATE PRACTICE

In these kindergartens where skills are a major focus, children struggle for months to learn the letter/sound relationships, the other skills, and the meaning of concepts like "yesterday" and "tomorrow." This involves a great deal of drill, memorization, and rote learning. Even the teachers' questions call for a single right answer most of the time instead of being thought-provoking. Teachers feel under great pressure to have their children learn the material and this consumes so much time each day that many find very little time to read literature to children. Choice time too, which used to be the backbone of kindergarten, is often compressed. This is happening nationally and is part of what troubles the nation's largest organization of early childhood educators. Concerns such as the "use of inappropriate formal teaching techniques for young children" and an "over-emphasis on achievement of narrowly defined academic skills..." led the National Association for the Education of Young Children to develop a "Position Statement on Developmentally Appropriate Practice in Programs for 4- and 5-Year-Olds." It was published in the September 1986 issue of Young Children. It cites, for example, as "inappropriate practice" when "workbooks, ditto sheets, flashcards, and other similarly structured abstract materials dominate the curriculum." Other practices, commonly occurring in the skills' kindergartens, are also characterized as inappropriate in this position statement.

If children were taught to talk as these kindergarten children are taught to read, by insisting that they begin with the letter/sound relationships, schools would probably have to offer "remedial talking" classes! Children learn to talk because people speak to them in whole sentences that express thoughts. We

make it clear to babies from the very beginning that sounds convey meaning. When they cry, we respond by changing, feeding, or holding them. We encourage their early efforts. We help them to know from the outset that words are a means for expressing wants, ideas, and observations. Our enthusiasm for each sign of progress as they learn clearly indicates that we value their efforts and what they have to say.

CREATING READERS AND WRITERS

In a small number of kindergartens, an approach similar to the one that produces talkers is evident. Teachers strive to create readers and writers by having books for children to read and encouraging them to write their ideas and thoughts. In these kindergartens, reading/writing and choice time are each given 30 - 45 minutes daily. Teachers read literature to children every day. Books play a central role, and there is a large collection of fiction and non-fiction in the classroom.

When it's reading/writing time, children choose what they want to do. Some go to the book corner to "read" a familiar book with another child or to themselves. Others go to a small table set up with earphones where they can each listen to the same story while they turn the pages and follow along. Some children choose to make block prints. There is a set of ink stamps that includes each letter of the alphabet and a word and an illustration for each letter. "A" and "a" go with the picture of an arrow and the word "arrow." A number of other children draw a picture and then dictate the story that goes with it to an adult or write it down themselves. What appears to an adult as scribbling in September moves closer to the real thing and, in time, the child writes and spells in a conventional manner. Meanwhile, their efforts cause them to be more observant of how other "authors" write words.

Greater emphasis is put on choice time. A casual observer might see children building with blocks or playing with sand and think this has no place in school. A closer look will show that children learn through play and this learning represents true comprehension. For example, two girls are playing with several containers in a large plastic basin of water. As they pour back and forth, they are learning from observation that the water in a big can will fill several smaller ones and the tall thin can holds as much as the short, thick one. They begin to think about which container is bigger. Such experiences with concrete objects enable them to understand concepts such as big and small and taller and shorter. These girls are also learning to share the containers, take turns, settle disputes and exert self-control.

Two boys playing a homemade game provide another example. The game consists of a magnet suspended on a string from a ruler and all the letters of the alphabet individually written in upper and lower case on heavy paper cut in the shape of fish, each with a paper clip attached. The boys identify a letter, pick it up with the magnet, and swing it over to another table. They had agreed that each turn was to last until 8 fish were picked up. That makes the count of the letters on the second table very important. 8 is not an abstract concept, but has real meaning. Children are free to use these letters as they wish, so there is the potential for increased learning about the alphabet, words and spelling. Mathematics enters with the determination of the length of a turn, or moving the letter cards two or three at a time. The magnet brings in science.

Teachers provide interesting, challenging materials and activities for choice time. The children make their choices and decide how they will use the materials. However, the teacher moves around the room stimulating further learning by asking questions, making suggestions, or providing more complex materials. With the water play, she might ask the girls to consider which of two containers would hold the most water. She might suggest to the boys that they see how many letters the magnet could pick up at once. The teachers monitor each child's progress and provide direction when necessary.

Strong support for the activities of the reading/writing kindergartens can be found in the position statement of the National Association for the Education of Young Children. One description of an "appropriate practice" which describes choice time well is that "children develop understandings of concepts about themselves, others, and the world around them through observation, interacting with people and real objects, and seeking solutions to concrete problems..." The statement stresses the fact that "young children learn by doing."

The skills-oriented kindergarten is the wrong approach for schools to take. It dulls children's natural curiosity and their desire to learn, and deprives them of the excitement of discovery. Too often, it serves to push children to take the first step in their disengagement from the learning process which results later on in academic failure and dropouts.

In contrast, children in the reading/writing kindergartens experience success, find joy and satisfaction in making discoveries, build confidence in their ability to learn, and have the motivation to continue. These are the kinds of beginnings that have the potential to lead to the development of adults who can reason, think critically, write expressively, and be creative.

ANNOUNCEMENT

The Oakes Newsletter will become a quarterly beginning with the next issue. There will be a fall issue, two in the winter, and one in the spring. The subscription rate will remain what it has been since 1982. Higher costs would have forced an increase, but a reduction in the number of issues published annually allows it to remain unchanged.

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One Hundred and Fiftieth Issue of

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An Independent Monthly Dedicated To Improving Public Education
Helen Oakes - Author and Publisher

Vol.XVIII, No.6 Philadelphia, Pennsylvania Spring 1987

PHILADELPHIA RENAISSANCE IN SCIENCE AND MATHEMATICS

Philadelphia is very fortunate to have the Philadelphia Renaissance in Science and Mathematics (PRISM) to work in collaboration with the School District to strengthen the teaching of mathematics and science. PRISM brings together the school system, business, the teachers' union and educational and scientific/cultural institutions to work in a common effort. PRISM was developed by the Math/Science Task Force of the Committee to Support Philadelphia Public Schools. The Committee is composed of leaders from large local businesses, institutions of higher education and foundations. A companion to PATHS which concentrates on the humanities, PRISM focuses on science and mathematics. Its budget, which exceeded $1 million in 1986, comes from local and national foundations and the city's corporate community.

When the grants to support PRISM were announced in the spring of 1985, Dr. Constance Clayton, Superintendent of Schools, expressed her strong approval and support when she said, "This is a splendid initiative... PRISM focuses on one of our curricular priorities, which is to make our schools better places to teach and learn about science and math."

PRISM's primary goal is to produce citizens who are scientifically literate and mathematically capable. In a time of great scientific and technological advances, when citizens must judge issues and candidates' positions on such matters as weapons of war, waste disposal, budgets or the reliability of the Social Security system, it is essential to enable students to comprehend the necessary science and mathematics to make wise decisions. Students will also need such understandings in the course of their daily lives to select an insulating material, a pesticide, a mortgage or life insurance.

PRISM has two secondary goals. It seeks to prepare young people for future entry into all levels of business and industry to serve as engineers, staff computer departments, maintain and repair technical equipment, or develop new products in laboratories. The region needs people to fill such jobs if it is to hold, or to attract, new or expanding research endeavors or businesses. PRISM also strives to increase the number of Black and Hispanic youth studying the advanced mathematics and science that will lead to a college education and/or careers in these fields.

In the main, PRISM has sought to reach its goals by giving teachers a greater sense of professionalism, enabling teachers to increase their knowledge base and their choices of ways to present subject matter, and stimulating a new enthusiasm. PRISM's many initiatives fall into four categories – the expansion of learning opportunities, an increase in professional activities, classroom science kits, and mini grants.

PRISM has organized a great number of educational activities for teachers and other professionals. Last summer there were four institutes

held at local colleges and universities lasting two to four weeks. Two were in advanced mathematics, one in the use of computers in instruction and one in chemistry. Planned jointly by teachers and university faculty members, they combined instruction in the content area with ways to present the subject to students in the classroom. Teachers found the institutes to be enlightening, exciting and stimulating. This summer there will be more.

During the school year, there have been a great number of PRISM workshops, meetings and lectures. A good example was a series of six meetings, organized jointly by teachers and museum educators, which focused on and was named "The Art of Teaching Science." These and many other meetings were held at museums and other places of cultural/scientific interest, such as the zoo and the Morris Arboretum, so that teachers would learn about Philadelphia's rich resources and ways to utilize them with their students. A Mathematics Curriculum Forum brought teachers to university campuses several times for small round table discussions of the mathematics curriculum. Their concerns and suggestions will go to the Mathematics Division which will study them at a PRISM supported retreat, react to the recommendations, develop an action plan and report back to the teachers. Ford Foundation funding has enabled PRISM to work with six high schools to encourage and facilitate mathematics/science teacher participation in professional growth activities varying from attendance at national conferences to bringing speakers on a topic like problem solving to a high school mathematics department meeting. All of these PRISM activities create opportunities for teachers to come together to share ideas, experiences, and strategies and to have the stimulation and energizing that comes with meeting with one's peers to deal with professional questions and issues.

SCIENCE KITS

In a very large, exemplary, collaborative effort, the School District, PRISM, and the Franklin Institute have joined forces to develop and produce science kits for elementary schools and train teachers in their use. Matched with the topics that are mandated in the standardized curriculum for science, the kits will provide teachers with everything they need. Four 6th grade kits were developed first and are being used in classrooms this year. The effort will move downward until all elementary school classrooms are covered by 1992.

Each kit is geared to teaching eight weeks of science, not through lectures, but by using a hands-on approach. Each kit contains the materials needed for students to carry out activities, plus a teacher's guide, lesson plans, a copy of the written materials needed by the students, a bibliography, and suggestions for additional activities. Many elementary school teachers took very little science in college and do not have the knowledge or the skills that they need to teach it. This is mitigated by providing the kits and a two-hour workshop for each one during which teachers perform many of the activities in the kits and learn the scientific principles behind them. They become better prepared to teach the curriculum and their confidence is bolstered.

The 6th grade kits cover electric circuits, magnetism and electric models, meteorology, and ecosystems. For example, there are batteries, bulbs, wire and switches so that the students can set up circuits or determine from experimentation what materials conduct electricity well. Materials are provided to construct such devices as an electromagnet and a simple motor. Students observe, classify, measure, infer and predict as they carry out such activities and experiments. They learn in a most effective way about the principles and processes of science, not by reading about experiments or watching demonstrations, but by doing them.

MINI GRANTS

PRISM Mini Grants stimulate innovation and enable teachers or schools to carry out their own ideas and bring about changes in their classrooms. Over 70 projects were sponsored by PRISM this year. Small grants up to $300 went to individual teachers who needed funds for student trips or to make purchases like reference books, computer programs, or scientific equipment. Larger grants up to $3000 went to teams of staff members in a school for projects with a broader outreach.

Moffet Elementary School provides a good example of the value of Mini Grants. It applied for funds to purchase life science kits for the 1985-86 school year. Teachers volunteered to stay after school and worked with an educator from the Schuylkill Valley Nature Center learning more about plant and animal life and how to use the materials in the kits. In a visit to the school a year later, the grant's effects were very apparent. First graders were planting young spider plants so that they would be rooted and ready to give as gifts on Mother's Day. It was clear that those six year olds knew a lot about plants and what they need to grow. In another classroom, older students were discovering the conditions of moisture, heat and light that isopods (common garden "bugs") prefer and were graphing the results. Because each child has the opportunity to carry out the experiment and observe and record how many isopods seek the wet, moist or dry sponge, the curriculum required "animal response to environmental factors" takes on meaning. There was great excitement in another classroom because a life cycle had been completed and a butterfly had emerged from its cocoon. At Moffet, students learn more science by studying and working with living plants and animals. Not surprisingly, they are scoring higher on science tests too.

PRIME

PRIME, supported in part with PRISM funds, is the only PRISM project which focuses on students rather than teachers. PRIME is a non-profit organization founded in 1973 for the purpose of encouraging minorities to enter the field of engineering. In 1984, it broadened its scope to also include pharmacy, and other mathematics and science-based professions. PRISM sought to aid the expansion of PRIME and has provided funds which have enabled PRIME to double the number of students participating in its summer program.

PRIME programs are located in various secondary schools in Philadelphia and Camden. Coming from elementary schools, minority students with strong achievement, aptitude, and interest in science and mathematics are identified and recruited for PRIME. They must then take a mathematics and science course each year, maintain good grades and participate in PRIME activities. They are provided with specialized and supplementary activities in mathematics, science and communications. They are monitored, supported and counseled at least until graduation from high school, and in some cases beyond.

PRIME has an academic year component and a summer one. During the school year, in middle/junior highs, there are two special PRIME classes weekly. At the senior high school level, students attend sessions after school and the emphasis is on preparing students to get into college and to have the necessary skills and knowledge to stay and get a degree.

PRIME's four-year summer program, beginning after 8th grade, involves the highest achieving students in an intensive four-week program on a college campus. Summer study focuses on the improvement of speaking and writing, practice in doing research and writing papers, further study of mathematics, computers and science-based subjects and, as throughout the program, learning more about applicable careers. For the last two summers,

students may choose to concentrate on engineering, or pharmacy and biological sciences, or actuarial science which is used in the insurance and banking industries. During the post-11th grade summer, students live on a college campus, utilize its many resources and get a sense of what college life will be like.

Another important element of PRIME's program is the link established between a PRIME school and a business or government agency. Volunteers come to the school often and serve as role models as they speak from personal experience about careers and the world of work and assist with independent science projects. Students are taken on field trips to the company or agency work site so that they can see the work place and the people in it. These experiences have proved invaluable in terms of motivating, inspiring and encouraging students to enter the mathematics and science fields where there is opportunity and a need for increased minority representation.

Many people deserve high praise for their contributions to the Philadelphia Renaissance in Science and Mathematics (PRISM). Superintendent Constance Clayton had the vision to see the worth of PRISM, welcomed its birth and has supported its growth. The Committee to Support Philadelphia Public Schools and the PRISM Advisory Board shared this vision and have provided leadership and financial support. The School District staff has welcomed this outside assistance and worked cooperatively in an exemplary way. Teachers have attended all kinds of professional activities, often on their own time, to increase their knowledge base or their teaching skills. The participation and/or support of business, foundations, museums, institutions of higher education and the scientific community in this widespread effort has been invaluable. PRISM merits commendation because it is innovative, creates meaningful partnerships, and is successful in bringing about change and improvement.

This is the 150th issue of The Oakes Newsletter which has been published continuously since April 1970. I would like to express deep appreciation to the Alfred and Mary Douty Foundation which has provided support from the beginning. I am very grateful to The Allen Hilles Fund which has been generous with its support for the last three years. I want to say a heartfelt thank you to Rita Oakes for her editing which has made each issue clearer and more concise.

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