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ABSTRACT

Tutoring is recommended as one of several possible ways to help keep students in school. This report is based on a literature review and conversations with researchers, educators, and students. In spite of recent reductions in dropout rates, they remain high, especially in large urban schools. An extensive body of literature supports the effectiveness of one-on-one tutoring for its cognitive and emotional benefits. Such tutoring is particularly effective when teachers are used as tutors, although peer tutoring and tutoring by community volunteers have been effective. While it is difficult to work tutoring time into the school day, a number of scheduling options have been developed that make it possible to allow students some time for tutoring. A further problem is then providing an adequate supply of tutors. Peer tutoring and community resources present possible solutions at costs that can be tolerated. Recommendations are offered to permit one-on-one tutoring during the school day. An appendix lists nine guides for improving tutoring programs. (Contains 33 references.) (SLD)

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The National Commission for Employment Policy
Washington, D.C.

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TURNING POTENTIAL SCHOOL DROP-OUTS INTO GRADUATES: THE CASE FOR SCHOOL-BASED ONE-TO-ONE TUTORING

Once students fall behind, failure seems to build on failure. And those who fail begin to dislike school, teaching, learning, and experiences having anything to do with formal instruction. It takes a great deal of effort to overcome this kind of negativism.

Betty O. Carpenter, Ph.D.

I. Introduction

One of the findings from the education literature is that the provision of quality in-school tutoring services is an important tool in preventing students from dropping out of school. Building on that finding, this report examines several issues that bear on how tutorial services can be improved in the nation's public school system so as to turn potential school drop-outs into school completers.

The topic of tutoring has come to the fore in recent years because of a renewed focus on students who are at risk of school failure, coupled with a renewed commitment to see that all students learn basic skills in the early grades.

There are many other reasons for the need to offer in-school tutorial programs for all students that need such services. For many students, the K through 12 years will be their only chance to receive an education. While some dropouts may later become eligible for assistance under national job training programs (so-called "second chance" programs), these programs can serve only a small percentage of the eligible population. In addition, the effectiveness of some of these programs has come under scrutiny.

There are equity considerations as well. Low-income families are less likely to use private tutoring. Some educators say that private tutoring is just another sign of a disturbing gap between the educational opportunities of the poor and the wealthy.[1]

For these reasons and others, more emphasis should be placed on keeping students in school (the "first chance" program) and seeing to it that they complete high school.

This paper suggests that improving the tutorial services in the primary and secondary schools is an important way to accomplish this goal. While tutoring is only one of several possible

interventions to the dropout problem, it can be an extremely effective one if good quality one-on-one tutoring programs are established in the schools. [2]

According to a 1995 report by Education Testing Service, only 13 percent of those students who dropped out of the Class of 1992 reported having been offered special tutoring by school staff; only 16 percent were offered special tutoring by their parents or guardians. [3]

Many types of school reforms are being experimented with to improve our nation's schools including charter schools, block scheduling, public-school choice, small schools, extended-year schooling, year-round schooling and experiments to "contract out" to private educational agencies. This paper examines some of these reforms in the context of how they could provide improved opportunities for one-to-one tutoring.

This report is based on an extensive review of the literature and discussions with researchers and members of the education community including students, teachers, guidance counselors, principals, administrators, and superintendents. It begins with an overview of the dropout problem (Section II). Section III defines and discusses key issues related to one-to-one instruction, including its effectiveness, availability, and the degree to which one-to-one tutoring is being provided, or could be provided, in our public schools. Key findings and conclusions are presented in Section IV. Recommendations are contained in Section V.

II. Background

Over the last 20 years, there has been a general decline in dropout rates and a general rise in high school completion rates. And, during the 12 years since the publication of A Nation At Risk, graduating high school students have shown an increase in the number of total course units completed -- and almost all of that increase has been in academic subjects. [4]

Between the late 1970s and 1993, "event" dropout rates -- the proportion of students who drop out during a given year -- declined 33 percent, and the "status" dropout rate -- the proportion of 16- through 24-year-olds who are not in school and have not completed high school, regardless of when they dropped out -- declined by 23 percent. [5]

However, despite these gains dropout rates remain high. In 1993, approximately 380,000 students ages 15 through 24 dropped out of school Over 3.4 million persons ages 16 through 24 had not completed high school and were not currently in school. High dropout rates from our large urban high schools continue to be particularly disturbing. In some schools, the dropout rate exceeds

50 percent. Dropout and non-completion rates are particularly high for Hispanics and persons living in poverty. The dropout rate for students who had repeated more than one grade was four times the rate for students who did not repeat any grade (40.9 percent versus 9.4 percent). [6]

The most common reasons for dropping out are school related, rather than job or family concerns. Students who left school between 10th and 12th grades reported dropping out because they did not like school (43 percent) or they were failing (39 percent). Pregnancy was the most common family reason (27 percent for female dropouts) and 29 percent of the dropouts reported getting a job. [7]

The dropout crisis may appear paradoxical because the rate of school completion has risen nationwide. The antithesis, however, is that the effects of the dropout problem have grown cumulatively over the years, accentuating the widening gap between the affluent and the poor, the skilled and the unskilled and, in the future, the extremes of a so-called "cognitive elite and an intransigent underclass." [8]

The consequences are both long range as well as short term. Many of today's youth who fail to complete high school are practically condemned to poverty. So are their children, perpetuating the poverty cycle largely responsible for the persisting underclass. [9]

Education, increasingly, has become key to a productive and satisfying life. Gone are the days when a lack of education didn't hurt a person's chances for finding good, steady work. Opportunities are expanding for those with higher level skills and abilities and shrinking for those without such skills. Yet, many of our students are not acquiring the skills or training needed to participate in this changing workplace. According to the Census Bureau, over the course of their working lives, dropouts will:

- earn $212,000 less than high school graduates
- earn $384,000 less than persons having some college education
- earn $812,000 less than college graduates
- earn $2,404,000 less than individuals with professional degrees. [10]

In addition to these negatives, dropouts have a profound impact on society. They are three times more likely to be unemployed than high school graduates. Also, nearly half of the heads of households on welfare failed to finish high school and half of the U.S. prison population in 1992 were high school

dropouts. Furthermore, many dropouts are disconnected from mainstream America, with little chance for a rewarding career. [11] The Committee for Economic Development estimates that school dropouts cost the nation $75 billion in welfare benefits and lost tax revenues. More comprehensive estimates, which include the costs of social services, put the price closer to $200 billion over their lifetimes. [12]

The following section examines some of the key issues for improving the availability of one-to-one instruction in our nation's elementary and secondary schools.

III. Key Issues

1. To what degree does one-on-one tutoring make a difference in learning and, at the same time, improve the chances of students to complete schooling?

The volume of literature extolling the effectiveness of one-on-one tutoring is quite large. Generally, one-to-one tutoring has long been recognized as superior to conventional group instruction and other methods of learning. The reasons are that tutors can adapt instruction to the learner's (tutee's) pace, learning style, and level of understanding, and that feedback and correction are immediate. In addition, basic misunderstandings can be quickly identified and corrected and more difficult material introduced as soon as the student is ready.

Tutoring has emotional as well as cognitive benefits. For example, students can achieve at their own pace without being compared with faster learners; and, the extra attention and emotional support may help fill important psychological needs for children, especially those from troubled or single-parent families.

School-based tutoring, when it occurs, is normally provided by teachers, paraprofessionals (teacher aides), volunteers, and students. Students tutoring other students is referred to as "peer tutoring" or "cross-age tutoring." Peer tutoring occurs when tutor and tutee are of about the same age. In cross-age tutoring, the tutor is older than the tutee. However, sometimes the term peer tutoring is used to include both types. [13]

The students who seek tutoring are not only those doing poorly in school. Some are getting Bs or Cs and want to improve their grades. Others seek tutoring to boost their college entrance-exam scores so they can get into more prestigious colleges. [14]

One of the most comprehensive and well known studies on the effects of tutoring was undertaken by Peter A. Cohen and James Kulik with support from the National Science Foundation. A detailed presentation of their findings appeared in the Spring 1982 edition of the American Educational Research Journal.

Cohen and Kulik found the existing research at that time consisted of reports based on subjective impressions and thus of limited scientific value and other reports which described sound experimental studies in which an investigator compares the performance of equivalent groups of students assigned to classrooms with and without tutoring programs. In these latter reports, comparisons often focus on learning gains in the two types of classrooms, and sometimes also cover affective growth of tutored and nontutored students.

From the late 1960s to the mid-1970s, several major reviews of peer tutoring studies concluded that tutorial programs contributed to the learning attainment of the children that were tutored as well as to the children who provided the tutoring. Two of the reviews cautioned, however, that "these contributions have been clearly demonstrated only for well-structured and cognitively-oriented programs." [15] Since each of the reviews used informal narrative and box score methods to summarize findings, it was difficult to make precise statements about the size of the gains to be expected from tutoring programs or about the conditions under which strong effects are most likely to occur.

In 1977, S.S. Hartley applied more sophisticated review methods to the literature on tutoring. Her methodology, called "meta-analysis," was simply the statistical analysis of a large collection of results from individual studies for the purpose of integrating the findings. Applying this method to findings on mathematics teaching in elementary and secondary schools, Hartley showed not only that the effects of tutoring were positive, but they were stronger than effects from such other individualized teaching methods as computer-based instruction, programmed instruction, and instruction with individual learning packages.

According to Cohen and Kulik, since Hartley examined studies only from the area of mathematics, she was unable to determine whether strength of findings varied as a function of the subject being taught. In addition, since her analysis was restricted to cognitive gains, she could not determine whether tutoring had positive effects on attitudinal and other outcomes of teaching. [16]

When Cohen and Kulik began their own research to integrate findings on tutoring, they built on Hartley's work. Like her study they also used the meta-analytic method. Unlike her study, however, their analysis covered effects of tutoring in different subject areas and described results separately for different kinds

of outcomes. They also examined outcomes for student tutors and tutees and included only those studies that met reasonable methodological standards.

Data for the Cohen-Kulik study came from 65 objective, comparative studies of tutoring located through computer searches of the educational literature. The studies differed in experimental design, course setting and covered different types of programs. (For example, programs were structured and nonstructured, some had cross-aged and same-aged tutors, and some programs used trained and untrained tutors.)

The 65 studies described educational outcomes in three different areas: learning, attitudes, and self-concept. [17]

Based on these studies, the effects of one-on-one tutoring were significant. First, a large majority of the studies reported a positive effect of tutoring programs on tutee achievement in learning. For example, "66 percent of the students from classrooms with tutoring programs out performed the average student in a control classroom." [18] Second, student attitudes were more positive in classrooms with tutoring programs. Third, self-concepts were more favorable for students in classrooms with tutoring programs. These programs also made positive contributions to the learning and attitudinal growth of student tutors.

Cohen and Kulik concluded: "The message from the educational literature on tutoring programs seems clear enough. These programs have definite and positive effects on the academic performance and attitudes of those who receive tutoring. Tutored students out performed their peers on examinations, and they express more positive attitudes toward the subjects in which they are tutored." [19]

Benjamin S. Bloom, in his 1984 article: "The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring," reports the findings from studies of learning outcomes under three conditions of instruction: conventional, mastery learning, and tutoring. **To summarize the findings: "Using the standard deviation (sigma) of the control (conventional) class, it was typically found that the average student under tutoring was about two standard deviations above the average of the control class (the average tutored student was above 98% of the students in the control class)."** [20]

Among the more recent studies is one by Barbara Wasik and Robert Slavin of the Center for Research on Effective Schooling for

Disadvantaged Students (CDS), Johns Hopkins University. [21] Their study, conducted in the early 1990s, was based on the following premises:

- Every child (except for the severely retarded) can learn to read, given appropriate instruction, motivation, and resources.
- There is a "best" period for learning to read -- basically, in the first grade.
- It makes real sense to prevent reading failure in the first place instead of letting it happen and then trying to remediate it.
- There is a method that has immense potential for use in the first grade to insure that all children without serious learning disabilities can lean to read -- one-to-one tutoring.
- First-grade success in learning to read has long-term effects on disadvantaged children, either without additional intervention or with low-cost continuing intervention. These long-term effects include achievement in later grades, less retention, fewer referrals to special education, and reduced dropouts.

Given these premises -- already strongly supported by research -- Wasik and Slavin reached the conclusion that: **"If we know that large numbers of students can be successful in reading the first time they are taught, and that the success not only lasts but also builds a bases for later success in school, we have a moral obligation to do whatever it takes to see that all students do in fact receive that which is necessary for them to succeed."** [22] According to Wasik and Slavin, a major part of "that which is necessary" should be one-to-one tutoring in the first grade. This is based on their synthesis of research on the effects of one-to-one tutoring programs used in first grade to prevent reading failure.

Their synthesis reviewed the evidence on five programs whose evaluations met stringent criteria. First, the programs had to include one-to-one instruction delivered by adults (certified teachers, paraprofessionals, or volunteers) to students in the primary grades who were learning to read for the first time. Second, the evaluations had to compare the program to traditional instruction in elementary schools over periods of at least four weeks on measures of objectives pursued equally in the experimental and control conditions.

In short, the evaluations had to be methodologically strong, so their results could be believed with few reservations.

The researchers found five programs that met the criteria and ten separate studies of them. The five programs were:

- Reading Recovery
- Success for All
- Prevention of Learning Disabilities
- The Wallach Tutoring Program
- Programmed Tutorial Reading

The five programs not only met the criteria, their evaluations were unanimously positive. "Across ten separate studies of cohorts involving five different tutoring methods, effect sizes were substantially positive in every case," the researchers noted. **"One-to-one tutoring of low-achieving primary grade students is without doubt one of the most effective instructional innovations available."** [23]

While the outcomes for all forms of tutoring in these five programs were very promising, the largest and longest lasting effects were found for the three programs that used teachers as tutors. [24]

Also in the early 1990s, Slavin et al. summarized the conclusions of their major, federally funded review on the effects of programs intended to prevent early school failure. Among those studied were: reducing class size; extra-year programs for kindergartners or first graders; and, integrated computer-assisted-instruction programs. Of all the strategies reviewed, "the most effective by far for preventing early reading failure are approaches incorporating one-to-one tutoring of at-risk 1st graders." [25]

So impressed with these findings, the authors asked: "If these programs are so effective, why aren't they in daily use in schools, especially in disadvantaged schools?" [26]

2. To what extent are there now available to students quality, school-based tutorial services in the elementary and secondary public schools?

Currently, school-based tutoring programs are available to some students in public schools throughout the country. In many programs, students are instructed by peers or paraprofessionals

rather than by regular school teachers or professionals. [27] As a consequence, the use of peers as tutors seems to have increased the availability of tutoring programs within the schools.

However, peer tutoring is still not widely employed in the schools. This may be partly a result of a perception among teachers and administrators that there is a lack of validation of these procedures. Other partial explanations may be that teachers lack the skill or time to properly train their students to tutor, they are concerned about possible disruptive behavior between tutoring pairs, and/or teachers question the quality of instruction offered by students, particularly those from low socioeconomic backgrounds with poor academic achievement records. [28]

Where they do exist, most peer programs are small-scale remedial or supplemental adjuncts, tacked lightly onto the conventional classroom system of group instruction. Such cross-age programs are sometimes viewed as an added burden placed on already overloaded teachers. The benefits to the few students involved are sometimes seen as not worth the effort to the cooperating teachers. [29]

Calvert High School in Calvert County, Maryland provides an example of a "supplemental adjunct program." Calvert High has no formal tutorial program except for an "Athletic Study Hall" which provides some peer tutoring to athletes so they can maintain their eligibility to participate in sports. Other than this, the remaining non-athletic students have to seek out help in a loose, informal system through their guidance counselors and teachers where tutoring is provided by regular school teachers and/or peers who are members of the National Honor Society. [30]

Another reason for the lack of readily available quality tutoring services in the schools is that there is not a serious, conscious effort, or commitment, on the part of many school administrators to provide for such services -- it is not part of the school culture. To some extent, tutoring programs are lacking due to the many management and scheduling demands on administrators. [31]

Consider, for example, what's offered at the college level. In many colleges and universities there are in place "Learning Centers" where tutoring is offered on demand by students. These centers have a designated location on campus and hours during the day that are convenient to the students. In such schools, there is a firm commitment to tutorial programs in helping students learn and progress in school.

As an example, one college's Learning Center provides a variety of services to help students in many classes. Within the Learning Center, the Math Center offers individual and group tutoring sessions led by advanced mathematics students. In the

Writing Center, trained student tutors assist students with all aspects of writing, from finding topics to understanding documentation procedures for research papers. Instructors lead sessions on a variety of subjects from grammar to time management. The center also sponsors study groups for specific classes and provides individual help with reading and other study skills.

According to Slavin, one-to-one tutoring is more common for first graders than it is for those students in the high schools. It is because of the general shortage of these services within the schools that so many private tutoring businesses have opened up like, for example, the nationwide chain of more than 500 Sylvan Learning Centers. [32]

Some researchers and educators are concerned that students who could benefit from tutorial services which are available in the schools are not utilizing them. In many schools, where one-on-one tutoring is available only before or after the school day, many students do not seek these services because of involvement in other planned school activities such as sports, cheerleading and band practice, etc; job or family commitments or problems with transportation. Other students lack the motivation or initiative to seek such services.

Compounding the problem is the stigma: some students do not want their schoolmates to know they are receiving tutoring. Another sad problem is that some parents are unaware that the school provides these services at no additional cost.

As mentioned earlier, some of the research literature indicates that one-to-one instruction by teachers provides the largest and longest lasting effects. However, due to the limited time teachers have for tutoring, along with the problems or reluctance on the part of some students in seeking such services, the amount of quality tutoring being offered and received in our public schools is limited. [33]

Nevertheless, there are scattered throughout the country some apparently successful in-school tutorial programs. These programs take many forms. The four programs briefly described below illustrate the wide range of configurations possible.

The Williamette High School Peer Tutoring Program seeks to improve the academic performance of at-risk ninth graders. This program in Eugene, Oregon, selects academically strong students as tutors and gives them academic credit for training classes and tutoring. Tutors "sit in" on their tutees' classes and assist them during ongoing class activities.

The Coca-Cola Valued Youth Program (VYP), developed by the Intercultural Development Research Association (IDRA) in San Antonio, Texas recruits low-achieving Hispanic middle school

students to tutor at-risk Hispanic elementary students. Tutors, who are the program's primary focus, are paid as well as given academic credit. The program seeks to prevent tutors from dropping out, improve their academic skills and attitudes toward self and school, and decrease truancy and disciplinary referrals by making them valued members of the school community.

The Companion Reading Program for levels K-3 and higher includes tutoring as one of several integrated instructional components. All students in a class take turns acting as tutor and tutee during daily exercises. Students thus reap the benefits of both roles. [34]

The HOSTS program (Helping One Student To Succeed), serves more than 300,000 students in 29 states and the District of Columbia. HOSTS is designed to increase students' reading and language arts skills through an individualized lesson plan and involvement with a dedicated, successful role model who serves as a mentor. Students receive extra attention, motivation, support and encouragement to become better students. A federal, multistate study found HOSTS produces consistent improvement in educational attainment at every level in grades 1 through 9. [35]

3. How can effective, in-school tutoring be established as part of the regular school day and made available on demand using experienced tutors?

In addressing this issue, one needs to consider three subsidiary issues: times during the regular school day these services could be provided, where the needed supply of tutors would come from, and costs.

The Timing Problem

The scheduling of classes in many schools will need to be changed to free up a period of time. Under the Carnegie structure, for example, most schools begin at, say, 7:30 a.m and end at 2:30 p.m. with seven class periods and 45 minutes for lunch.

To build into the school day 45 minutes to an hour in which students could be tutored would require a restructuring of the school schedule or dropping one of the seven classes. This hour -- in which all students would not be engaged in regular classroom activity -- could be considered an "activity period" or "study hour". Those students not needing tutoring could, during this period, engage in other school-related projects such as working on the yearbook, doing homework or other assignments.

Alternatively the school day could be lengthened by an hour or the length of the regular classes could be shortened to provide the necessary time.

Each school would have to look at its own unique set of circumstances to determine what would work best.

As an example of what can be done in this area, Parsons High School in the Parsons, Kansas, School District began an experimental peer tutoring program which has since been expanded into the middle school. As explained by Louis R. Martino, who teaches at Parsons High School, the School District is in its third year of conducting a for-credit peer tutoring class at the high school level.

Students who receive tutoring in this class cut across the spectrum of socioeconomic levels and ethnic backgrounds. Some have learning disabilities, others are learners who simply need more time to learn, but all were not achieving their potential with regular classroom instruction alone.

The Parsons School District peer tutoring class is a regularly scheduled elective course offered for high school students. Students wanting and needing help with any of their classes can request enrollment in the peer tutoring class. Also, honor students, gifted students, and other caring students with solid study skills taking many of the same courses (or having taken them) apply and are chosen to enroll in the tutoring class as peer tutors.

The peer tutoring class meets daily throughout the semester. Students receiving help attend both regular classes and their peer tutoring class. As many as 10-12 peer tutors work one-on-one with an equal number of students who receive help during the peer tutoring class period. Both peer tutors and tutees receive a grade and earn elective credit in this class -- class credit has been a significant carrot for students' academic success in this class.

According to Martino, many schools often attempt to conduct some form of peer tutoring before or after school or during lunch time. Unfortunately, he says, "these hit and miss time slots are usually not as effective as a regularly scheduled, credit-bearing peer tutoring class." [36]

Woodrow Wilson High School in Portsmouth, Virginia provides another example. At Wilson, tutoring -- like at Parsons -- is also provided during the regular school day. However, while instruction is provided by all regular classroom teachers, it is not necessarily one-to-one. This tutoring period of 45 minutes each school day came about by reducing the length of time of the regular classes from 55 minutes to 45 minutes. Those students not needing tutoring engage in other study activities during this period. The

program, called RISE (Reinforcement In Study Excellence), does have some disadvantages in that the shorter regular classes, particularly lab courses, make it more difficult for teachers and students to cover the required material. One advantage of the RISE program is that there is no extra pay for the teachers since they are still teaching the same number of hours. [37]

There are other possible solutions to the time problem that educators could explore. One which appears very promising and growing in popularity is "block scheduling," based on the Copernican Plan, championed by Joseph M. Carroll, a superintendent emeritus and a senior associate at Copernican Associates, Ltd. [38]

Block scheduling fundamentally changes the way schools use time. Fewer classes are held each day but for longer periods of time. For example, "classes are taught in much longer periods [90 minutes, two hours, or four hours per day], and they meet for only part of the school year [30 days, 45 days, 60 days, or 90 days]." [39]

A specific example of block scheduling is the four classes a day, two semester system implemented at Governor Thomas Johnson High School in Frederick, Maryland. Prior to its implementation, the school operated under the Carnegie structure where students took 8 courses each day from September to June. Now, under block scheduling, students take four courses from September through January and four different courses from February to June, with each class period being 88 minutes. It is very similar to how the college day is structured. [40]

Among the plan's advantages are smaller classes; a more flexible, productive instructional environment that allows for effective mastery learning; and more individualized learning opportunities.

Block scheduling also facilitates variety in the use of instructional approaches. Because teachers are granted longer blocks of instructional time, they are encouraged to break away from overreliance on lecture/discussion as the primary (and often only) method of teaching. For example, a math teacher might deliver direct instruction for 25 to 30 minutes, review concepts, travel to the computer lab for reinforcement with appropriate software, and provide individual students with personalized reteaching, practice, or enrichment -- all within the same block. [41] Under such an arrangement it would also be possible to establish an entire block of time for tutorial services.

The first school in Kentucky to adopt block scheduling, Western High School in Louisville, has seen a vast improvement in the percent of its students continuing schooling after graduation. Tim Moore, a consultant for high school restructuring at the

Kentucky Department of Education, noted that "three years ago only about 24 percent of the students continued their schooling after graduation; now it's up to 65 percent."

He attributes that success to the emphasis on "more individual attention on learning." The block schedule includes an "advisor/advisee period" in which the faculty works one-on-one with students. [42]

David Hottenstein, principal of Hatboro Horsham Senior High School in Horsham, Pennsylvania, reports significant improvements in several measures since his school switched to a block schedule three years ago. During the first quarter of the 1994-95 school year, 426 of the schools 1,150 students (37 percent) made the honor roll. During the first quarter of the last year under the traditional schedule, 245 students out of 1,050 (23 percent) made the honor roll.

"Under the revised schedule," he says, "there have been 12 percent fewer Ds and Fs on final exams and report cards, the dropout rate is down 25 percent," and disciplinary referrals are significantly down. [43]

According to Jan Furman, an assistant superintendent in the State of New York, **not only does block scheduling free up more time during the normal school day for in-school tutoring, both teachers and students feel that the change to block scheduling has, in itself, improved the learning process.** "Some schools have had block scheduling for five years and the successes at these schools have been documented." [44]

Ms. Cindy Watson, guidance counselor at Pulaski County High School in Dublin, Virginia, is also enthusiastic about block scheduling. After the first year of implementation of block scheduling at Pulaski an evaluation found that the number of students receiving As increased by 15 percent and the number receiving Ds and Fs declined by 13 percent. In addition, summer school enrollment has declined substantially. Part of the reason for this is the more individualized attention students receive through block scheduling. [45]

While block scheduling provides more time for individual attention during a regular class block, most schools with block scheduling have not set aside a separate block devoted to just tutoring. Donna Dowdy, assistant principal for curriculum at Ashboro High Schools agrees that schools should designate a block of time specifically devoted to one-on-one tutoring. She said for that to happen at Ashboro would require additional funding to hire tutorers or to hire someone to train the peer tutorers and a faculty member to oversee the program.

Like many other schools, Ashboro has budget problems and the only way to squeeze more funding out of the state would probably require a grass roots approach, says Dowdy. Accordingly, advocacy of such a tutoring program would likely have to begin with the parents and the PTA and work up through the bureaucracy within the school system. "All the way up to the superintendent who would lobby the state department of education for more state and federal dollars." With so many schools going to block scheduling throughout the country this would be a good time to encourage schools to establish a block for tutoring and to provide the schools with the resources to do it. [46]

Another potential solution to the timing problem is for a school to become a charter school, an autonomous entity that operates on the basis of a charter between an individual or group (educators, parents, or other members of the community) that organizes the school and its sponsor (the local school board, county, or state board). Such schools have more autonomy than do the regular schools and thus have more freedom in developing class schedules (such as instituting block scheduling) and providing the time for in-school tutorial services.

Once granted a charter, the school receives educational formula-driven funding as though it were a public school district. Two key differences, however, exist. First, these charter schools are freed from most state and local regulations, allowing them to implement innovative ideas. Second, if these schools fail to attain outcomes, as specified in their charter contract, they are put out of business. [47]

Charter schools, the first of which was established in Minnesota in the 1992-93 school year, now operate in eleven states that have passed charter legislation. [48] "Although the number of charter schools is currently quite small -- according to the Wall Street Journal, 12,700 students were enrolled in 41 charter schools" during the 1993-94 school year -- "that number is expected to increase as charter school proposals in several states move from the drawing board to the classroom in the next two years." [49]

Maintaining an Adequate Supply of Tutors

Another important factor in planning and implementing a tutoring program is attracting the needed supply of tutors. As noted earlier, potential sources include current teachers and teacher's aides; retired teachers; parents; students who could provide "peer" and "cross-age" tutoring; and volunteers, including business people.

Among other potential sources are college students in college-sponsored tutoring programs that link with elementary and secondary schools in the provision of one-on-one instruction. According to

the National Dropout Prevention Center, more than 200,000 students across the nation in grades K-12 were tutored by approximately 63,000 college students representing 921 college campuses during school year 1987-88. [50]

Given the wide assortment of individuals available, and particularly the availability of peers, most school administrators should find an adequate supply of tutors in their attempts to initiate, or expand, tutorial programs.

Costs

The cost of an in-school tutoring service will depend in part on several factors, including: the number of students that will need, or use, the services; who provides the tutoring; the extent to which, and by whom, tutors are trained; and the need for additional space. Cost will also depend upon those expenses associated with organizing, administering and evaluating the tutoring program, including the need for a tutoring program coordinator. [51]

Compared to the cost of paid adult teachers, peer tutorers -- a readily available source in the schools -- would be less costly and there are several guides available to assist schools in setting up a peer-tutoring program. (See Appendix A)

Because the critical elements in peer-tutoring programs are adequate training and on-going supervision of tutors there will be some costs to the schools associated with these elements. [52]

Recent research on cost-effectiveness shows that peer tutoring provides greater achievement per dollar than other more often used educational innovations. For example, when program costs were weighted and math and reading results checked, it was found that peer tutoring produced more than twice as much achievement as did computer-assisted instruction. Also, peer instruction produced three times more growth in achievement than reducing class size from 35 to 30 students and close to four times more growth in achievement than would result from lengthening the school day by one hour. [53]

Several researchers have analyzed the elements that make up successful peer tutoring programs. There is general agreement among them that careful recruitment and selection of peer tutors, as well as training, matching, and monitoring project activities are among the most important factors affecting project success. [54]

According to the literature, a common feature of good peer tutoring is the provision of preservice and in-service training. Tutors need to know how to make their tutees comfortable, and how to offer suggestions and criticism in ways that avoid alienating

them. Training should provide tutors with skills in listening, patience, observation, understanding, use of corrective feedback and social reinforcement, effective communication, building trust, and handling conflicts. [55]

Other low-cost tutorial services being utilized in some schools are volunteers and college students, as mentioned earlier.

To summarize, while the timing problem is real, many schools have come up with ways to overcome that impediment as shown by examples provided in this paper. It has also been demonstrated that, by and large, many schools have also had success in attracting an adequate supply of tutors. **However, to have a quality, dedicated one-to-one tutoring program in schools using regular adult teachers as tutors -- and, large enough to serve all students who need such services -- need not be costly if schools work with their State Boards and others in the education community in developing innovative block scheduling structures.**

As illustrated in this paper, some schools could switch to block scheduling and establish a block of time for tutoring using regular school teachers who would receive no extra pay because the hours worked per day would remain essentially unchanged (see earlier mentioned examples of programs at Western High School, Louisville, Kentucky and Woodrow Wilson High School in Portsmouth, Virginia). Secondly, giving credit to students who participate in the "tutoring block" would enable schools to continue to meet state credit requirements (see the earlier mentioned example of Parsons High School, Parsons, Kansas).

Therefore, to have the type of program proposed in this paper using teachers as instructors does not seem to necessarily require commitments at the highest levels of government in the form of additional funding, as some educators have suggested. [56] **However -- even if it did -- the fact that early intervention can prevent students from experiencing failure and can help them get off to a successful start in school, the use of a more expensive intervention may be cost effective in the long run.** [57]

IV. Key Findings and Conclusions

This review of tutoring in our public schools has revealed that:

- One-to-one tutoring is an extremely useful tool in improving learning and in enhancing the chances of students to remain in school. In addition, such instruction is an effective means of preventing student reading failure. As such, preventive tutoring deserves an important place in discussions of education reform. If

we know how to ensure that students will learn to read in the early grades, we have an ethical and perhaps legal responsibility to see that they do so. Preventive tutoring can be a key intervention in abolishing illiteracy among young children who are at risk of school failure.

- While there are tutorial programs in many schools, for the most part these services are offered before school and/or after school and are not fully utilized by students who could benefit from them. In addition, various tutorial programs are of poor quality and are not very extensive, nor are they considered a part of the school's culture.

- Sound school-based tutoring programs can be implemented and integrated within the schools during the regular school day through a change in the scheduling of classes or by lengthening the school day. Other options include major changes in the way schools operate, for example, by instituting block scheduling and/or establishing charter schools.

- **Block scheduling appears to be the key that can unlock the time problem by providing a period during the regular school day for tutoring. Although evaluations are somewhat limited due to the newness of this concept, information which does exist indicates that block scheduling has had more positive impacts on learning than the traditional Carnegie structure. As schools convert to block scheduling they have an opportunity to establish a block solely dedicated to tutoring.**

- The problems of maintaining an adequate supply of tutors and the cost associated with one-to-one tutoring using regular school teachers need not necessarily provide obstacles if the schools would work with their State Departments of Education, and other groups, in developing innovative block scheduling structures as suggested in this paper.

Dialogues between high school counselors, parents, teachers, and administrators are needed and should be focused on how the individual school can improve on the tutorial services it currently offers. Private tutors are obviously providing a needed service. The fact that this phenomena has taken root and has grown attests to the need. Those concerned about equity and interested in improving all students' access to tutoring services, particularly for those who cannot afford private instructors, need to take part in this dialogue.

If we are to offer all our kids a better chance to learn, complete school, and become productive members of the labor force, education decision makers should take advantage of -- and act upon -- what is known about the opportunities presented by tutoring and block scheduling.

V. Recommendations

1. Individual schools should consider changing from the Carnegie structure to block scheduling which will enable schools to establish a block for tutoring during the regular school day.

2. Parents, students, community groups and PTAs should actively encourage the schools to establish high quality one-to-one tutoring services in the schools during the regular school day and, particularly, advocate block scheduling. Without bottom-up, grass roots encouragement, many schools may not take the initiative on their own to establish such programs.

3. The U.S. Department of Education should encourage state and local school districts to use federal, state and local resources to improve, or establish, in-school one-to-one tutorial programs during the regular school day. Such resources should include technical assistance in implementing programs and information on possibilities offered by changing to a block scheduling structure.

4. In order for school systems to become more active proponents of tutoring, they should be provided with information and technical assistance on how they can integrate tutoring into their instructional programs and spending plans. The following are examples of areas in which assistance should be provided:

- Selecting students to receive tutoring services;
- Scheduling services;
- Training teachers to train and supervise tutors;
- Monitoring tutoring activities; and
- Using federal funds to support tutoring services.

These needs could be met through technical assistance provided by the State Boards of Education either by on-sight assistance or in the form of printed information (such as journal articles, guides, and manuals), workshops, and conference presentations.

5. Existing organizations, such as the National Parent Teacher's Association, should be enlisted to assist higher education institutions in initiating, expanding, and improving tutoring projects.

Several national and statewide organizations currently assist colleges and universities in developing and implementing community service activities, including tutoring. Because their paid staffs consist mainly of recent college graduates who have successfully administered community service activities on their own campuses, these organizations report that they provide significant amounts of service on fairly small budgets.

These organizations could also be vehicles (through their conferences, technical assistance networks, and publications) for proving additional information to schools about service techniques, likely benefits, and funding sources.

Small infusions of supplementary funds to these organizations could translate directly into services for interested institutions, including elementary and secondary school systems, with little need to create new organizational infrastructures. A few small grants under existing U.S. Department of Education discretionary authorities could result in significant expansion of the assistance activities conducted by these organizations. [58]

6. Should additional funding be needed to establish tutoring programs, school administrators should refer to the Code for Federal Domestic Assistance, a comprehensive source for the numerous federal programs that provide financial resources that may be used for tutoring.

ENDNOTES

1. Mary Jordan, "Tutoring Moves From Stigma to Status Symbol," The Washington Post, May 15, 1994, p.1.

2. See: Richard A. Lacey, Keeping All Our Kids: Collaborative Strategies for School-Based Dropout Prevention, prepared for the National Commission for Employment Policy, Washington, D.C., 1995.

3. Richard J. Colet, Dreams Deferred: High School Dropouts in the United States, Policy Information Center, Educational Testing Service, Princeton, New Jersey, 1995, p. 20.

4. Two new books from the National Center for Education Statistics (NCES) present these improvements. Dropout Rates in the United States: 1993 describes three types of dropout information for U.S. students. The Condition for Education, 1994 has 60 indicators looking at all phases of education. Both of these annual publications present information over time, as well as by a variety of characteristics.

5. OERI BULLETIN, U.S. Department of Education, Office of Education Research and Improvement, Fall 1994, p. 3.

6. OERI BULLETIN, Fall 1994.

7. OERI BULLETIN, Fall 1994.

8. Lacey, 1995.

9. Lacey, 1995.

10. Bureau of the Census Statistical Brief, "More Education Means Higher Career Earnings," SB/94-17, August 1994.

11. Dreams Deferred: High School Dropouts in the United States, 1995, p.4.

12. Lacey, 1995, p. 18.

13. Joan Gaustad, "Peer and Cross-Age Tutoring," ERIC DIGEST, Number 79, EDO-EA-93-1, March 1993.

14. Gary Nelson, "Edmonds tutor project drawing student raves," Daily Herald, Everett, Washington, November 17, 1986.

15. Peter A. Cohen and James A. Kulik, "Synthesis of Research on the Effects of Tutoring," Educational Leadership, December 1981, p. 227.

16. Educational Leadership, December 1981, p. 227.

17. To quantify effects of tutoring in each area, Cohen and Kulik used G.V. Glass's index of Effect Size (ES). This index gives the number of standard deviation units that separate the group averages being compared. The index is defined as the difference between the means of two groups divided by the standard deviation of the control group.

18. Educational Leadership, December 1981, p. 228.

19. Educational Leadership, December 1981, p. 229.

20. Benjamin S. Bloom, "The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring," Educational Researcher, June/July 1984, p. 4.

21. Barbara A. Wasik and Robert E. Slavin, "Preventing Early Reading Failure With One-to-One Tutoring: A Review of Five Programs," Reading Research Quarterly, April/May/June, 1993.

22. "One-to-One Tutoring Produces Early Reading Success; Large Gains Justify Cost," CDS, Center for Research on Effective Schooling for Disadvantaged Students, The John Hopkins University, November 1990, p. 1.

23. CDS, "One-to-One Tutoring Produces Early Reading Success; Large Gains Justify Cost," Center for Research on Effective Schooling for Disadvantaged Students, The Johns Hopkins University, November 1990, p. 2.

24. Robert E. Slavin, Nancy L. Karweit, and Barbara A. Wasik, "Preventing Early School Failure: What Works?," Educational Leadership, December 1992/January 1993, p. 14. See also: Barbara A. Wasik and Robert E. Slavin, "Preventing early reading failure with one-to-one tutoring: A review of five programs," Reading Research Quarterly, April/May/June 1993.

25. Educational Leadership, December 1992/January 1993, p. 14.

26. CDS, November 1990, p. 2.

27. Educational Leadership, December 1981, p. 227.

28. Denise Giesecke, Gwendolyn Cartledge, and Ralph Gardner III, "Low-Achieving Students as Successful Cross-Age Tutors," Preventing School Failure, Spring 1993. In "A School-Change Paradigm," The Education Digest, May 1989, p. 4, Frank Riessman says that resistance to peer approaches involves at least five factors: (1) There is a lack of full awareness of the enormous potential embodied in a peer strategy -- the peer approach is simply seen as one small educational intervention among many. (2) There is an

often expressed fear that peer helpers will provide inadequate information or inappropriate help. (3) Professionals have not been trained in how to use tutors and peer helpers, nor in how to reorganize classroom practice and counseling services. (4) There is some fear that "free" peer interventions will substitute for the needed expansion of professional resources. (5) Some professionals feel a loss of control might result from the expansion of peer processes and peer empowerment.

29. Edwin M. Swengel, "Cutting Education's Gordian Knot," PHI DELTA KAPPAN, May 1991, p. 704.

30. May 23, 1995 interview with Mary Spurrier, Instructional Assistant, Calvert High School, Calvert County, Maryland. Also, June 5, 1995 interview with Jim Marlett, principal of Calvert High School.

31. April 17, 1995 interview with Jerald L. Wilbur, President and Chief Operating Officer, HOSTS CORPORATION.

32. Interview with Robert E. Slavin, The Johns Hopkins University, April 11, 1995.

33. There are some studies that have shown that peer tutors can be as effective as professional teachers in tutoring. See: Edwin M. Swengel, "Cutting Education's Gordian Knot," PHI DELTA KAPPAN, May 1991, p. 706. Also see: Tommy Russell and Dorothy F. Ford, "Effectiveness of Peer Tutors vs. Resource Teachers," Psychology in the Schools, October 1983, pp. 436-441.

34. Descriptions of these programs are from ERIC Digest, March 1993.

35. School Board News, January 31, 1995, p. 4; and February 27, 1995 meeting with William E. Gibbons, Chairman of the Board, and Jerald L. Willbur, President and Chief Operating Officer, HOSTS CORPORATION.

36. Louis R. Martino, "Peer Tutoring Classes for Young Adolescents: A Cost-effective Strategy," Middle School Journal, March 1994, p. 56.

37. April 7, 1995 interview with Ms. Mary L. Barnett, guidance counselor, Woodrow Wilson High School, Portsmouth, Virginia. Ms. Barnett also noted that one of the other two high schools in Portsmouth has a similar program. Also, she said that Portsmouth schools are seriously considering going to block-scheduling soon. "Its the wave of the future," she says.

38. The name "Copernican" is taken from Nicolaus Copernicus, a 16th century scholar, whose major contribution was the explanation for the movement of the planets. His premise was quite

fundamental: if one assumed that the sun, not the earth, is the center of the universe, then measurements made sense. This thinking was radical at the time because it challenged basic beliefs about creation and man's role on earth.

39. Joseph M. Carroll, "The Copernican Plan Evaluated: The Evolution of a Revolution," PHI DELTA KAPPAN, October 1994. Also, October 3, 1994 interview with Joseph M. Carroll.

40. June 23, 1995 interview with Mr. Arnie Coleman, Vice Principal, Governor Thomas Johnson High School, Frederick, Maryland.

41. Robert Lynn Canady and Michael D. Rettig, "Unlocking the Lockstep High School Schedule," PHI DELTA KAPPAN, December 1993, p. 312.

42. Ellie Ashford, School Board News, "Block scheduling said to increase student learning," March 7, 1995, Vol.15, No. 4, p. 8. Also, June 27 and August 23, 1995 interviews with Ms. Theresia Colbert, resource counselor, Western High School, Louisville, Kentucky. According to Ms. Colbert, the block structure at Western is as follows: There are three 80 minute subject blocks [blocks during which regular school subjects are taught, such as math, english, and chemistry]. There is one 25 minute block, called Youth Experiencing Success (YES), during which students work with teachers in an advisor/advisee period on a variety of issues such as: how to solve problems, anger reduction, self esteem, and how to use leisure time. There is one 80 minute block called The Academic Block [or A-Block]. During this period, each student will be required to take responsibility for his/her own learning outcomes by participating in Socratic Seminars, laboratory experiences, library research, mentoring programs and peer tutoring, etc. Tutoring by regular teachers or peers is also available after school from 2:30 p.m. to 3:30 p.m.

43. Ellie Ashford, School Board News, March 7, 1995, p. 8.

44. May 11, 1995 interview with Jan Furman, Assistant Superintendent/Curriculum Coordinator, Dover Union Free School District, Dover Plains, New York. Ms. Furman says the school district has been "overwhelmed with visitors from other schools" who want to learn first-hand about block scheduling. She also said she was unsure of the extent to which block scheduling is known at the higher levels of the U.S. Department of Education. When asked how Carroll got the idea for block scheduling, she said it came out of his experiences with summer school where students performed better due to the longer classes. Also, see Carroll's book which documents findings. See also, Jan Furman and J. Bruce McKenna,

"Dover Renew 2000: Implementation of a Block Schedule," ERS Spectrum, Spring 1995. This article is an excellent source that services as a road map for educators interested in establishing block scheduling.

45. June 23, 1995 interview with Cindy Watson, guidance counselor, Pulaski County High School, Dublin, Virginia.

46. June 28, 1995 interview with Ms. Donna Dowdy, assistant principal for curriculum, Ashboro High School, Ashboro, North Carolina. Ashboro H.S. has four 90 minute blocks in the September-January semester and four 90 minute blocks in the February-June semester. Dowdy said that by August of 1995, 64 percent of North Carolina's public high schools will have changed to block scheduling.

47. Louann Bierlein and Lori Mulholland, "Charter School Update: Expansion of a Viable Reform Initiative," Morrison Institute for Public Policy, School of Public Affairs, Arizona State University, Tempe, Arizona, October 1993. This publication provides an excellent review and discussion of the issues involved in establishing charter schools.

48. For a description of the differences between charter schools in various states see: Lynn Olson, "Varied Laws Raise a Question: What Is a Charter School?", Education Week, 1/19/94, p. 14.

49. Donna Harrington-Lueker, "Charter Schools: Another ho-hum reform, or a genuine reformation thumping on your schoolhouse door?," The American School Board Journal, September 1994, p. 23.

50. Joanne Little, Tutoring Success!, A Joint Project of Anderson School District One and The National Dropout Prevention Center, November 1990, p.1. See also: Elizabeth R. Reisner, Christene A. Petry, and Michele Armitage, A Review of Programs Involving College Students as Tutors or Mentors in Grades K-12, Vol. 1, prepared for the U.S. Department of Education by Policy Studies Associates, Inc., Washington, D.C., April 1990.

51. See Carol Weatherford and Myriam Seoane, Evaluation Guide for Tutoring Programs, a publication of the National Dropout Prevention Center, Clemson, South Carolina, November 1992. The guide provides a framework for planning, developing and implementing an evaluation of a tutoring program.

52. PHI DELTA KAPPAN, May 1991, p. 707.

53. Louis R. Martino, "Peer Tutoring Classes for Young Adolescents: A Cost-effective Strategy," Middle School Journal, March 1994, p. 55.

54. Peer Tutoring and Mentoring Services for Disadvantaged Secondary School Students: An Evaluation of the Secondary Schools Basic Skills Demonstration Assistance Program, prepared by Policy Studies Associates, Inc., Washington, D.C. for the U.S. Department of Education, 1993, p. 23.

55. J. Jenkins and L. Jenkins, "Peer tutoring in elementary and secondary programs." Focus on Exceptional Children, 17(6), pp. 1-12, February 1985. Also, J. Cohen, "Theoretical considerations of peer tutoring." Psychology in the Schools, 23, pp. 175-186, April 1986.

56. April 6, 1995 interview with Dr. William Moloney, Superintendent of Calvert County Schools, Calvert County, Maryland.

57. Reading Research Quarterly, April/May/June 1993, p. 179.

58. For related information on recommendations number 4 and 5, see Reisner, Petry and Armitage, April 1990.

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APPENDIX

GUIDES FOR IMPROVING PEER-TUTORING PROGRAMS

The following sources/guides would be useful to school personnel for improving or developing peer-tutoring programs:

Marian Arkin and Barbara Schollar, The Tutor Book, New York: Longman, 1982. This is a standard text used in college courses for peer-tutor and peer-counselor training, but it is suitable for high school students.

Elizabeth S. Foster, Tutoring: Learning by Helping, Minneapolis: Education Media Corporation, 1983.

"A Cognitive Developmental Approach to Training Elementary School Peer Helpers," doctoral dissertation, North Carolina State University, 1988.

Linda J. Miller, Frank W. Kohler, Helen Ezell, Kathryn Hoel, and Phillip S. Strain, "Winning With Peer Tutoring: A Teacher's Guide," Preventing School Failure, Volume 37, Number 3, Spring 1993.

Patricia S. Koskinen and Robert M. Wilson, Developing a Successful Tutoring Program (for teachers and school administrators); Tutoring: A Guide for Success (for adult tutors); and A Guide for Student Tutors, Teachers College, Columbia University, New York and London, 1982.

Two reviews of peer tutoring with practical recommendations on how to start a tutoring program are: Sinclair Goodlad and Beverly Hurst, Peer Tutoring: A Guide to Learning by Teaching (New York: Nichols Publishing, 1989); and Kenneth Topping, The Peer Tutoring Handbook: Promoting Cooperative Learning (Cambridge, Mass.: Brookline Books, 1988).