

Running Head: COSTS OF REMEDIAL EDUCATION

The Costs and Benefits of Remedial Education

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### *Introduction*

Students who enter college not fully prepared in math or English are routinely expected to take additional non-credit generating coursework in these areas. The costs associated with this remedial education are borne by students, families, institutions and taxpayers. Policy discussions on this topic go in two directions: First, questions are asked about why so many students are entering college unprepared, and secondly, who should pick up the extra costs involved with bringing them up to speed. The discussion is complicated by lack of data, uneven standards for college preparedness, and increasing needs to hold down the costs of college.

### *Description*

Students entering colleges and universities are almost universally tested to determine whether they are ready for college level work. Based on these placement tests, large numbers are required to take remedial education courses, before beginning or along with, regular college coursework. The remedial courses are usually in math and English.

Remediation has long historical roots. A 1828 Yale Report called for an end to the admission of under-prepared students, while a speech in 1869 from an incoming Harvard President discussed the need for colleges to compensate for poor early preparation (Spann, 2000). The first known remedial education program involved coursework in reading, writing and arithmetic and began in 1849 at the University of Wisconsin (Phipps, 1998). At the beginning of the 20<sup>th</sup> century, over half of the students who enrolled in Harvard, Princeton, Yale and Columbia were placed into remedial courses. Later in the twentieth century, many remedial education functions were taken

over by junior colleges, although availability of these courses and 4-year colleges also continued to rise steadily. In the 1980s, legislatively mandated testing further increased the amount offered. The debate on what constitutes an acceptable amount of remediation has emerged at different times and forms, and continues to be a subject of major disagreement to this day.

Estimates vary on the proportion of students requiring remediation. Data from the National Center for Education Statistics (NCES) gathered in 1995 indicated that 35-40% of first year community college students needed at least one remedial course (Spann, 2000). There is evidence to suggest that the figures are now higher than in 1995, in part because a large number of states have moved toward mandatory placement requirements for all students who did not meet certain academic standards, including those in vocational education. Haycock and Huang (2001) state that 49% of all freshmen entering 4-year colleges enroll in remedial courses. However, this number is substantially different from most sources which estimate an average of about a third of all entering freshmen. Costrell (1998) states that remedial students enroll in an average of two remedial courses, and that 70% of remedial students are in community colleges, while 30% attend 4-year colleges, including the most exclusive.

The NCES study also found that 78% of higher education institutions in 1995 offered at least one remedial reading, writing or math course, and virtually all two-year colleges did so (Phipps, 1998). Overall, students were not found to take remedial courses for long periods of time, with two-thirds participating for less than a year, while 28% stated that the average time spent was a year (Phipps).

With regard to the demographic characteristics of students needing remediation, the California State University system reported that 68% of all first-time freshman failed at least one of their placement exams in 1998. Of these, minority students were significantly more likely to do poorly (Selingo, 2000). [Add here](#)

A significant proportion of students who place into remedial education courses are older people who may not remember all of the knowledge and skills that they left high school with. Phipps (1998) refers to several studies that suggest that a substantial number fall into this category. According to the National Center for Education Statistics, 46% of students in remedial education classes in 1992-93 were over 22 years of age. Researcher Jan Ignash found 27% of entering freshmen in remedial courses were 30 years or older. The state of Maryland's data indicated that more than three-quarters of remedial students in 1994-95 were 20+ years of age, while in Florida it was found that 80% of students in remedial classes were older students needing to brush up on skills. Breneman and Haarlow (1998) obtained data from Illinois indicating that 46% of freshman taking remedial classes were 23 years or older.

### *Confounding issues*

Unfortunately, analysis of the true extent of remediation needed and undertaken is complicated by several factors. First, there is no universal agreement on what college readiness means. Generally, the need for remedial education is based on the college placement tests selected or devised by each institution. Phipps (1998) notes that, "[There] is ample evidence indicating that the standards for remediation vary considerably (even) within a set of institutions with similar missions" (p. vi). According to a study by the

Southern Regional Education Board, nearly 125 combinations of 75 different tests were used in placing students in remedial courses (Phipps).

Another layer of complexity is added because of differences in the ways that remediation is handled administratively in different colleges and universities. While it usually involves a narrow selection of courses in reading, writing and math, these may be offered by a separate developmental education department, or integrated into regular academic departments. Regarding accounting practices, some places include more costly programs like English as a Second Language (ESL) into the cost calculations for remedial education. A number include indirect costs as well. Further, some states report *appropriations* for remedial education, while others report *expenditures made* using revenue from all sources.

A final issue has to do with the likelihood that the amount of remediation provided is actually undercounted. Colleges, especially those with some amount of selectivity, tend to have very mixed feelings about accepting under-prepared students. A college's reputation is a very valuable commodity, and it can be downgraded by the perception that it has lower standards. Thus underreporting of the true extent of remedial education needed and provided is assumed to be widespread (Phipps, 1998). Steinberg (1998) concurs with Phipps' assessment, saying that reasons to hide these facts pervade the education system. He states, "Asking state education departments to estimate the amount of money their postsecondary institutions spend on remedial education is like asking the tobacco industry to estimate how much is spent each year to treat lung cancer" (p. 3).

*Remediation and Student Success*

Very limited research has been done on the success rates of students who take remedial courses. Where studies have been done, success is typically measured in terms of rates of graduation from college. Early work by Cliff Adelman showed an inverse relationship between remedial course-taking and completion of a degree. He found that, of 1982 high school graduates who attended college, the completion rate was 60% for those who took no remedial courses, 55% for those who took one, and 45% for those who took two (Phipps, 1998). This information can also be considered in a more positive light: many students did, in fact, successfully complete a degree following their remedial coursework.

Costrell (1998) reports that the NCES data indicate that 66-72% of community college students who enrolled in remedial courses completed them successfully, thereby opening the door to further education. However, Adelman (1998) notes that long term success following remedial reading coursework is less likely than when other kinds of courses are needed.

Florida is one state that has conducted extensive evaluation of remedial education programs. All remediation in the state is handled by community colleges, and course completion rates for 1993-94 students were as follows: math- 42%, writing- 60% and reading- 63%. Of those who completed their remedial coursework, 64% had graduated or were still in school four years later (Breneman & Haarlow, 1998).

*Remediation and the benefits to society*

Remedial education exists for some very pressing reasons that have to do with its benefit to both students and society. For students, the primary benefit is access to the wide range

of advantages that come with a postsecondary education (earning power, quality of life, self-esteem, etc.). There are also concrete benefits to society, some of which have been better quantified than others. One benefit of improving students' likelihood of graduating from college is increased tax revenue. Spann (2000) notes that, "A recent study pointed out that if only one-third of the students taking at least one remedial course were to earn a bachelor's degree, they would generate more than \$74 billion in federal taxes and \$13 billion in state and local taxes, while costing the taxpayer about \$1 billion to remediate. Furthermore, the graduation rate for remedial students would have to drop below the 1% level before taxpayers would see a net loss on investment" (p. 1).

Saxon and Boylan (n.d.) discuss the potential problems averted. Educated individuals are less likely to impose costs to society associated with imprisonment or welfare dependency. Clearly, people with higher incomes spend and save more, both advantageous to the economy. Finally, an educated citizenry is more likely to contribute to the community in a variety of non-monetary ways—voting, serving on boards and commissions, supporting school activities, participating in community service, etc.

#### *National monetary costs of remediation*

Discussions of the costs of remediation consider the issue in various ways. Studies have been made of the total national costs of remediation as well as the costs per student involved. Breneman and Haarlow (1998) undertook an initial small study, followed by a more extensive national one, to determine how much is spent nationally for this purpose. After summarizing data from a wide range of sources, they concluded that about \$1 billion per year is spent annually, or roughly one percent of total higher education expenditures. They also surveyed representatives from the 50 states, and found

a range of between around 1% (California, Illinois) and 7-8% (Washington, Wyoming) in the states with adequate data for analysis.

These figures may represent an overestimation in that they include the costs of remediating older students, ESL students, and possibly others who were clearly not taking the same course material twice. On the other hand, they may be low to the extent that colleges or states are underestimating their true remedial education enrollment.

An alternative way of looking at national expenditure figures is offered by Abraham, who prefers to compute costs on a per student basis. Using 1993-94 data, he made calculations using numbers of students enrolled in remedial education, total budget outlays for that year, and he assumed one remedial course per student. He came up with an estimated total yearly outlay of between \$260.3 million and \$580.7 million, depending on the assumptions used in calculations. These figures, however, dealt specifically with incoming first-time freshmen, the group of most concern to policy makers interested in holding down costs (Saxon & Boylan, n.d.).

Phipps (1998), on the other hand, after considering the various barriers to fully including all costs mentioned above, estimates that the true cost of remediation is more likely to be \$2 billion, or 2% of the national expenditures on higher education.

It should be noted that none of the cost calculation methods discussed above take into account remediation provided by private colleges. They also do not figure in income that students forgo when they undertake studies, or conversely if they take a job in which their earnings are less because of education not completed.

*Costs of remedial courses compared with other courses*

An understanding of the costs of remedial education can be enhanced by looking at the cost per student educated (in terms of Full Time Equivalents or FTEs), and comparing it with that of other academic programs. Saxon and Boylan (n.d.) summarize information obtained in an Institute for Higher Education Policy cost analysis done in the state of Arkansas. In community colleges, the cost per FTE for remedial education in 1996-97 was \$6,709, while for General Studies it was \$6,163. In four-year institutions, it was \$7,381 per FTE student, versus \$8,804 in English and \$9,320 in math. The City University of New York reported spending \$4,660 per FTE, in comparison with \$7,079 for all academic programs combined.

*Monetary costs of remediation to different stakeholders*

While the studies discussed above consider the costs of remediation as a whole, estimated only with great difficulty, there is even less information available on the costs to the various stakeholders involved. In general terms, these might be estimated as follows:

**Costs to students and families-** Traditional freshmen receiving remediation fall into two categories, those who experienced a full college preparatory curriculum, and those who chose a general studies or career-oriented curriculum. For those who fall into the second group, it may not come as a great surprise if they find that they are less academically prepared for college level work, and may need to take some remedial education to come up to speed. Harlan Boylan, Director of the National Center for Developmental Education, notes that, “Although 63% of high school students went on to college last year, only 43% took the full college preparatory course of study while in high school”

(Breneman & Harlow, 1998, p. 9). For these students, the fact that they will have to take, and pay for, extra courses in college may not come as a great surprise.

For students who have received a standard college preparatory education, the extra costs involved in paying for remedial coursework may come as a shock. As Selingo (2000) points out, “Cal State freshmen who need remediation are hardly academic failures. Typically they graduated from high school with a B average, in the top third of their class...” (p.3). And in 1998, 68% of first time freshman failed at least one of California’s placement exams.

The Institute for Higher Education (1999) found that average tuition and fees in the 1996-97 year were as follows: public universities-- \$3,321, public 4-year colleges-- \$2,778, and public 2 year colleges-- \$1,283. If we assume that  $\frac{1}{4}$  of a student’s course load the first year was remedial, the extra cost to the family would be \$830, \$695, and \$321 respectively, assuming that no grant aid was received.

**Costs to institutions-** Costs to institutions were considered to some degree by Saxon and Boylan (n.d.). They found “no reports of remedial programs that operated at a loss” (p. 8). While they did not find summary data on the net revenue (or loss) generated by these courses, the cases that they looked at were suggestive. For example, the state of Kentucky reported that university-based remediation was entirely covered by tuition revenue. In the City University of New York, \$9,130 per FTE was generated in revenue as compared with an average cost of \$4,660. Reports from two other colleges spoke of a net gain associated with these programs. In fact, the authors hypothesize that, especially in community colleges, remedial course income may subsidize less profitable activities in the institution.

**Costs to taxpayers:** Public institutions receive funding from the state based on a variety of formulas and other budgetary criteria. The Institute for Higher Education (1999) broke down the sources of revenue that cover the cost of educating a full time student (FTE) in a public institution as follows for the 1994-95 academic year: 18% from tuition and fees, 51% from federal, state, and local government sources, and 31% from gifts, endowment and “other.” Assuming that remedial education costs are distributed in a like manner, taxpayers are paying about half of the costs of these courses.

However, 70% of remedial education takes place in community colleges. I used figures from Palmer (1996), who looked at revenue sources contributing to the FTE cost in public 2-year institutions in 1992, and found that: 22% of the revenue came from tuition and fees, 76% from government sources, and 2% from gifts, etc. Thus, taxpayers fund about three-quarters of the cost of remedial education in community colleges, assuming that these programs do not have any unusual sources of revenue.

We saw above that in the state of Arkansas, considered to have unusually reliable data, the cost per FTE for remedial education in 1996-97 was \$6,709 in community colleges and \$7,381 in 4-year colleges. Using the assumptions stated previously, we find that the cost to taxpayers is \$3,690 per FTE student in 4-year colleges, and \$5,031 in community colleges. However, we have seen that an average full time student takes two remedial education courses in one year out of a potential full time course load of 8-10 courses per year, making this a relatively small portion of his/her yearly educational experience—and of the total costs incurred to educate him/her.

*Costs- non-monetary*

The non-monetary costs of remedial education are of concern to a number of people involved in higher education (Costrell, 1998; Steinberg, 1998; Cronholm, 1999).

Cronholm expresses the possible results in dramatic terms:

I respect the good intentions of those who advocate remediation. It is comforting to visualize remedial students in a kind of seamless progression, moving through their remedial classes, into college-level work, on to graduation, and then into profitable postgraduate careers. That is the view from 30,000 feet. But, on the ground level, the effect of remediation on the students and the institution can be devastating. (p. 1)

She argues that “curricular deflation” and “grade inflation” are two major prices associated with the practice of admitting under-prepared students to higher education. Colleges receive heavy pressure to admit students of varied abilities from legislators and the public, and then begin to lower standards in order to avoid overburdening these students. Less challenging courses are offered, often with a demoralizing effect on the better-prepared students. And when students who are taking classes for which they do not have the background do poorly, they end up with low grade point averages which may then affect their ability to obtain financial aid.

Costrell (1998) even argues that, “low admission standards will depress the college graduation rate among some students who are lulled into a lesser degree of college preparation” (p. 24). He believes that high school students will realize that they can go to college without working unduly hard in high school, and willingly enter

remedial education courses. He also thinks that a number of these will find it harder than expected to catch up and be at high risk for failure.

He also sees the potential for higher college standards having a positive impact even on those who do not go beyond high school. The pressure to raise high school standards to meet the college entry requirements should positively affect the curriculum for all students. Conversely, a cost of continued low college standards may be their reinforcement of the tendency for high schools to avoid change.

An additional cost of lowered admission standards is a diminished overall perceived quality of the institution and its graduates, a cost borne primarily by well-qualified students, who receive a degree that may be of lower value. In addition, since colleges are held accountable for graduation rates, it may result in internal pressures to teach less challenging course material to “assist” the under-prepared, thus imposing a cost on better-prepared students. Steinberg (1998) states that, “It is quite clear that the typical college curriculum has been “dumbed down” so that many courses which twenty years ago would have qualified for the remedial label are now offered as bone fide academic courses” (p.44).

#### *Policy Solutions- High School*

While it is considered to be in the public interest to fund remedial education, there is also a growing distaste among policy-makers for the idea of paying twice for the same “product,” i.e. college preparatory math and English. The argument is made that if high schools were providing solid courses in these subjects, and they are taken and passed by students, then there should be no reason for students to fail at college placement tests. There is clearly some truth to this argument, as U.S. high school students are, in fact,

performing poorly on standardized tests and other objective measures of performance. (Haycock & Huang, 2001). Further, standards for graduation are often locally determined and vary widely. Breneman and Haarlow (1998) note that, to graduate from high school in Texas, a student is only required to read at the ninth grade level. Croholm (1999) refers to the findings of a research study she conducted at Baruch College in New York:

We discovered that students with similar backgrounds—economically, socially, culturally, geographically—who differ only in which high schools they attend have vastly different outcomes upon graduation [from college]. We found that the majority of students from certain schools require remediation while many students from other schools do not. (p. 4)

Clearly a key policy option in addressing the high numbers of students requiring remediation involves changes in the high schools. Some of the approaches that are being used or proposed include (Barnett, 2002):

- Standardizing high school core curriculum state- or city-wide, requiring college preparatory course taking for all students (used in Texas, Indiana, and Chicago).
- The use of high school exit exams required for graduation that are benchmarked to college entrance expectations.
- Widespread use of early intervention programs to help less advantaged high school students to achieve. These may be accompanied by scholarship programs that help students see college as a realistic goal financially.
- Collaboration between (usually local) high schools and colleges to align their curricula, avoiding gaps and areas of overlap.

- Early placement testing by colleges, usually offered to high school juniors, to help high schools and students to assess whether they are on track (e.g. Maryland's SOAR initiative).
- Programs that offer early college experiences, often for dual credit, as a way of introducing students to college expectations.
- Improved teacher education and ongoing professional development./

In addition, a number of states are looking at incentives and sanctions that will encourage high schools to produce college-ready graduates. Breneman & Haarlow (1998) refer to Florida's introduction of performance budgeting for high schools designed to penalize them for students who require remediation. According to Phipps (1998), New Jersey and Montana are considering charging high schools for the costs of remediating their recent graduates.

Ohio is using a more benign approach. Breneman and Haarlow (1998) quotes a 1997 Commission report entitled *Improving College Preparation in Ohio: A Total System Approach*, as saying, "developmental enrollment levels- although important from a cost perspective- are not the problem. They are a symptom. The fundamental problem [they] reveal is this: Ohio's current educational system identifies and addresses a lack of college readiness only after students have graduated from high school and entered college..." (p. 15). The report proposes the formation of a partnership between high schools and higher education, in which resources would be directed away from remedial education programs and into college-readiness activities.

*Policy Solutions- Colleges*

Policy options considered by local and state policy makers regarding college remediation include raising 4-year college admissions standards so that no under-prepared freshmen are accepted, moving all remedial education from 4-year to 2-year institutions, various forms of assistance offered by colleges to high schools to improve the quality of their graduates, and measures to improve and refine remedial education approaches at colleges.

Cronholm (1999) and Steinberg (1998) are firm believers in the need to maintain high admissions standards for 4-year institutions. Cronholm glowingly describes the results of this strategy, used along with other measures: “Baruch was the only senior college at CUNY whose enrollment increased last year.... If you visit Baruch, which has one of the most culturally diverse student populations in the country, you will see the same motivation in the students today that was there decades ago....” (p. 5).

In the state of Florida and the City Universities of New York, decisions have been made to offer no remedial education in 4-year institutions. Since 1985, 4-year institutions in Florida have contracted with community colleges to provide these services, an arrangement that appears to have worked well. CUNY also took this step in 1998, amid much controversy, and the two sides continue to argue. Proponents of the plan state that the quality of the CUNY system is rising and attracting students because of the increased value of its degree, while detractors raise concerns about access to immigrant and low income students (Hebel, 2002a, 2000b). California has grappled with this issue as well and proposes to shift 90% of its remediation to community colleges by 2007 (Yamasaki,

1998). Reasons for this move include both the maintenance of high standards at 4-year colleges and savings associated with community colleges' lower instructional costs.

While a number of colleges contract with community colleges for remediation, some also have outsourced this program to private entities such as Sylvan Learning Systems, DeVry, or Kaplan Educational Centers. For example, two colleges in Maryland, one 2-year and one 4-year, have contracted with Sylvan Learning Systems to offer a series of math courses (Breneman & Haarlow, 1998). Phipps (1998) quotes a 1997 article from the *Chronicle of Higher Education* stating that dozens of colleges in Connecticut, Ohio, South Carolina and others are considering similar moves. Results of these arrangements are, as yet, inconclusive in terms of both cost-savings and student outcomes.

Some colleges are taking a very proactive role in working with high schools to improve their educational offerings, or to better understand the expectations that students will face in college. Cronholm (1999) talks of Baruch College's efforts in this regard when they raised standards for admission. They began offering summer programs to prepare incoming freshmen to meet the new standards. They also offered to test high school sophomores, juniors, and seniors to provide feedback on whether they were on track to becoming college-ready, and worked with high school teachers to improve preparation. Other colleges work with high schools to articulate their courses and programs of study so that students exiting a high school class in a given subject can "seamlessly" transition into the college course material.

Finally, colleges are looking at ways to refine and improve their approaches to remediation. Phipps (1998) and Spann (2000) discusses some of the core strategies that show promise in this regard:

- creating inter-institutional collaborations that look at system-wide approaches to educating students (e.g., P-16 models)
- comprehensive models of remediation that include ongoing assessment, tailored curriculum design and delivery methods, and student support services
- utilizing technology to enhance the teaching-learning process
- improving program evaluation methods.

While these kinds of measures are beyond the scope of this paper, some may have important cost implications, with the potential to save money or to increase costs.

### *Conclusions*

Most people agree that remediation in some form is an important and worthwhile investment to make into our society. The consensus of most scholars on this topic is that 1% of national budget is a small price to pay to remediate 1/3 of all freshman (Breneman & Haarlow, 1998; Phipps, 1998; Spann, 2000).

Most also agree that it is important to take measures to reduce the need for remediation in order to hold down costs, improve the effectiveness of education, and reduce student frustration. Many of these measures involve improvement of the high school education offered in this country, as well as the use of more targeted programs to assist those at highest risk for needing remediation. Colleges can also play a pro-active role, by working in partnership with high schools to improve the transition process, and by looking for the most cost effective ways to remediate. Finding the right balance

between improving access to college and maintaining high educational standards will continue to challenge us for many years to come.

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