The Cost of Remedial Education in Higher Education

By D. Patrick Saxon and Hunter R. Boylan

ABSTRACT: This study examines the literature regarding the cost of delivering postsecondary remedial education. Five studies are examined which offer statewide and national estimates of these costs. The studies are viewed in light of their methodology, findings, and limitations. The discussion also offers insight into the limited amount of research available on this topic, the considerable difficulties involved in collecting this kind of information, and the opposing philosophies and variations of the interpretation of available data.

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Remedial education is currently a topic of considerable debate. Since 1995, it has been the subject of 48 newspaper articles in the nation's largest newspapers (Boylan & Saxon, 1999). Much of the reason for this attention centers on the cost of delivery. Critics argue that remedial education costs taxpayers twice, teaching academic skills in college that students should have acquired in high school. Opponents question the use of state and federal financial aid to students for the purpose of remedial studies. The purpose of this paper is to identify and discuss the research that exists with regard to the cost of delivering remediation.

Using the available research, those who work in this professional area can begin to examine the service they offer in light of the cost of providing it. This research base may simply provide information which can be used to measure the monetary value of remediation efforts on a broad scale, or it may provide a basis for the formulation of a model by the individual educator to analyze the cost of delivering remediation at the institutional level. Readers should note that this discussion has and will continue to use the terms "remedial" and "remediation" as population and profession descriptors. It is understood that the term "developmental" is preferred due to the more comprehensive nature with which it describes the efforts of those in this profession; however, the primary research on this topic refers to these services and the students that benefit from them as "remedial," hence they will be referred to as such in this discussion.

In laying the foundation for the cost analysis of remedial education services, two points should be considered. First, there is a significant lack of ongoing cost data collection relative to these services. The reports examined in this study provide only snapshots of cost data at a certain point in time; these data are dynamic and subject to change. The data collection process is also clouded with inconsistency. Although it is informative to examine, on a case-by-case basis, the estimated costs to deliver remediation in a particular state, one must note that these estimates are calculated using differing methodology, therefore precluding comparison of data across studies.

For those who desire quantitative remediation cost data for whatever reason, the studies reported on appear to offer that. However one must realize that when working with numerical data, the process by which calculations are derived should be questioned. Some questions that the reader might keep in mind while examining these studies may include the following: Do the numbers appear realistic relative to personal experience? Might the study be understating or overstating the cost data, and in what ways? And ultimately, is the benefit that remediation provides worth the price that is being paid?

Proposals abound on how to approach the efficient delivery of college-level remediation. Some suggestions include privatizing remedial education services or even passing remediation costs back to high school districts. A few states have actually relegated all remediation to community colleges where it is assumed that its delivery may be less expensive. The available research, however, effectively shows that remediation is a relatively small expense in higher education, especially given the size of the population that benefits from it. Whether remediation is expensive or not is certainly debatable and probably depends a great deal more on one's philosophy of education than on the actual cost of remediation.

Method

The research examined in this study was collected through: (a) searches of the Educa-

tional Resources Information Center (ERIC) and ERIC Document Reproduction Service databases, (b) searches of the literature in the National Center for Developmental Education Resource Library, (c) informal consultation with nationally recognized experts in the field, and (d) searches of the LEXIS-NEXUS Academic Universe database of news media.

A total of five studies that addressed the cost of delivering remedial education were identified and reviewed:

- Study #1, "Remediation in Higher Education: Its Extent and Cost" (Breneman, 1998);
- Study #2, *Remediation in Higher Education* (Breneman & Haarlow, 1998);
- Study #3, "Discussant for 'Remediation in Higher Education: Its Extent and Costs' by David Breneman" (Abraham, 1998);
- Study #4, *College Remediation: What it is, What it Costs, What's at Stake* (The Institute for Higher Education Policy, 1998); and
- Study #5, *Financial Analysis of Remedial Education at The City University of New York* (City of New York, Mayor's Advisory Task Force on the City University of New York, 1999).

The research base on this topic is very limited. In spite of any claims made about the cost of remediation, it appears that few states or government agencies have engaged in systematic data collection to determine these costs. Consequently, considerable attention in this review is given to discussion of the studies cited.

The Studies

Study #1, Remediation in Higher Education: Its Extent and Cost, Breneman, 1998

Study #1 used two approaches to estimate the annual cost of remedial education in U.S. colleges and universities nationwide. Both approaches used data from states that have actually collected information on the costs of remediation to make national projections of these costs.

One method used data representing legislative appropriations from the state of Texas to project national estimates. These appropriations amounted to 2.25% of the total Texas higher education budget. Based on national higher education appropriations of $40.5 billion, spending for remediation among U.S. colleges and universities was estimated to be $911 million (obtained by taking 2.25% of $40.5 billion).

Another method used expenditure data collected from a survey of Maryland colleges and universities. In that state remedial education accounted for 1.2% of the total expenditures for all campuses combined. Based on the total educational and general expenditures for public institutions of $87 billion, the national projection came to $1.05 billion (1.2% of 87 billion).

Although the two approaches yielded quite similar results, some obvious caveats were noted. Foremost was the assumption that Texas and Maryland were representative states with regard to the cost of providing remedial education. This was not known to be the case. The data from Maryland was self-reported and, in many cases, estimated and therefore subject to the limitations of such methods (Breneman, 1998). Revenues received from the delivery of remediation (which of course, should be considered as an offset to costs) were not reported. It should also be noted that the expenditure figures cited in this report reflected only the cost of delivering remedial courses. It did not reflect costs of other methods of delivering remediation such as learning laboratories, tutoring, or learning assistance programs (see Table 1).

Table 1
Breneman's (1998) National Remedial Education Cost Projections

Basis	National Cost Projection
Texas education *appropriations*	$911 million
Maryland education *expenditures*	$1.05 billion

Note: Data are from 1993-94

Study #2, Remediation in Higher Education, Breneman and Haarlow, 1998.

This was a follow-up to the aforementioned Breneman (1998) study. Although the methodology used in this study was not described in great detail, it involved a survey of all 50 states. Site visits were also made to states identified as those that regularly maintained remedial education cost data. Fifteen states provided data, and the reported cost of remedial education at community colleges *and* universities ranged from as little as 1.2% in Maryland to as much as 7% in Washington (see Table 2).

Across states however, there were many inconsistencies with regard to what the data represented and how it was reported. For instance, some states reported budget appropriations whereas others reported actual expenditures. Also, in some cases, remedial instruction was the only cost component considered, and, in others, a more comprehensive cost analysis of other remedial services in addition to courses was included.

Five states provided remedial education cost data as a percentage of the total community college budget. These were California (11%), Illinois (6.5%), Texas (academic instruction costs only; 18.8%), Washington (6%), and Wyoming (8.8%). Given that remedial education was more prevalent and served larger numbers of students in community colleges, spending at these institutions constituted a higher portion of the total budget than at universities. The study did not report on revenues generated from remediation activities.

The authors concluded that the national spending estimate for remedial education of about $1 billion–as Breneman (1998) projected–remained intact after this investigation. The authors found no evidence to contradict their original estimates. It was noted that this figure represented quite a small percentage of the total public higher education budget. Combining all sources of

Table 2
Breneman and Haarlow's State Remediation Cost Data

State	Remedial Cost (in millions)	Remediation as % of Total Budget	Remediation as % of CC Budget	Year
Alabama	$15.9	-	-	1995-96
California	$ 9.3	1.0%	11.0%	1995
Florida	$57.5	2.3%	-	1995-96
Georgia	$20	-	-	-
Hawaii	$ 1.5	2.1%	-	-
Illinois	$26.9	1.1%	6.5%	1996
Kentucky	$ 1.4	-	-	1994-95
Maryland	$17.6	1.2%	-	1995
New Jersey	$50	5.0%	-	-
New York	$90.7	-	-	1996
Ohio	$32	-	-	1995
Texas	$172	-	18.8%	1998-99
Virginia	$24-26	1.7%	-	-
Washington	$30	7.0%	6.0%	1995-96
Wyoming	$ 7.4	-	8.8%	1995-96

Note: Costs were computed using different methods. California estimates were for the California State University System only and included ESL costs. Illinois estimates included only direct faculty salary costs. Ohio estimates included only the amount of state subsidy. Texas reported education appropriations. Kentucky and Wyoming reported their community college budgets.

higher education revenue from state allocations, federal support, and student tuition this was estimated at $115 billion (Breneman & Haarlow, 1998).

Study #3, "Discussant for 'Remediation in Higher Education: Its Extent and Costs' by David Breneman," Abraham, 1998

In a commentary to Breneman's (1998) study, Abraham (1998) showed how different methods of calculation and assumptions might yield cost estimates that differed significantly from self-reported allocations and expenditure estimates. An assertion made here was that fund allocation may not necessarily result in equivalent spending for remedial education. Therefore, instead of taking state allocations and reported expenditures (as in the Breneman study), costs were quantified based on nationally reported estimates of the total education budget, the reported percentage of students (freshmen) taking remediation, and estimated remedial course loads of these students. The data were from the same fiscal year (1993-94) as the Breneman study.

In method one, cost was computed as a function of the number of freshmen taking remedial courses. Using national education and general higher education instructional expenditures ($87.1 billion) and estimates of the total undergraduate enrollment taking remediation (6% or 33% of first-time freshmen), cost estimates were calculated to be $435.5 million and $580.7 million. These estimates varied based on two averages of the total number of courses taken per year by freshmen. The averages were 9 courses and 12 courses, respectively. It was assumed that only one of these courses was remedial.

In method two, cost was computed as a function of education funds committed to remediation. Here, a portion of total national education expenditures that could be attributed to remediation was calculated. Based again on national higher education instructional expenditures ($87.1 billion) and using estimates of the percentage of first-time undergraduate enrollment (17%) and an estimate of the percentage of students taking remedial courses (33%), cost projections of $407.2 million and $542.9 million were made. Again, the estimates were calculated for an average of 9 and 12 courses, one of which was remedial, taken per year by freshmen.

In method three, cost projections were made based on per pupil expenditures. Based on an estimated per student expenditure of $14,000 and a percentage of first-time freshmen needing remediation (33%), cost projections based on one remedial course in a schedule of 9 and 12 classes were calculated. These projections came to $260.3 million and $347 million, respectively (Abraham, 1998). In each of the three estimates, the total costs of remediation were estimated to be well below $1 billion (see Table 3).

Table 3
Abraham's Remedial Education Cost Analysis

Basis	Cost Estimate
Freshmen remedial enrollment	$435.5 to $580.7 million
Funds committed to remediation	$407.2 to $542.9 million
Per pupil expenditures	$260.3 to $347 million

Note: From 1993-94 fiscal year data

It bears noting that Abraham's methodology was based on averages from both community colleges and universities. At community colleges, the per student expenditures are considerably less than $14,000, students typically take fewer than 12 hours of credit, and they are often enrolled in more than one remedial course (McCabe, personal communication, September 3, 1999).

Study #4, College Remediation: What It Is, What It Costs, What's at Stake, The Institute for Higher Education Policy, 1998

This research examined the cost of remedial education using a case study of the state of Arkansas. Arkansas was chosen because it had a mandatory remediation policy and a program that tracked student and institutional costs. The study sought to determine the total cost of remedial education (without regard to revenue), as well as the amount to which it was subsidized by the state. The data were collected by the Arkansas Department of Higher Education.

The total cost of remediation in Arkansas was reported to be $27 million or 3% of total education expenditures for the state. Remedial education accounted for 9% of total expenditures for community colleges and 2% for 4-year institutions. Of the total cost of remediation, the portion represented by state subsidy was reported to be $14 million.

A comparison of costs per FTE (full-time equivalents) for remediation versus core academic programs was made as well (see Table 4). At community colleges, the cost per FTE for remediation was $6,709. Only general studies programs with a cost per FTE of $6,163 was less expensive than remediation. Other subjects, such as business and nursing with costs per FTE of $7,730 and $8,235 respectively, were significantly higher (The Institute for Higher Education Policy, 1998).

Study #5, *Financial Analysis of Remedial Education at The City University of New York*, City of New York, Mayor's Advisory Task Force on the City University of New York, 1999

As part of a larger study on the administration of remedial education at the City University of New York (CUNY), a recent report offered a detailed financial analysis that included expenditures, costs per FTE, and revenues. The study was conducted by an independent accounting firm (Price Waterhouse) and reported data from the 1996-97 fiscal year.

CUNY reported spending $124 million on remediation from a $1.5 billion budget, or approximately 8% of the total fund expenditures. Remediation accounted for 23% of expenditures at community colleges, but only 5% at 4-year colleges.

For all types of institutions, CUNY spent approximately one-third less per FTE for remediation than for other academic programs as a whole. At community colleges, $4,660 was spent on remediation per FTE, whereas $7,079 was the overall average cost per FTE for all academic programs. At 4-year institutions, $6,350 per FTE was spent on remediation, compared to $9,754 overall (see Table 5, p. 6).

For the CUNY system as a whole, tuition, state, and federal student aid combined provided 62% of the revenue from remedial education services; city and state funding provided 33%. At community colleges, revenues generated from tuition and fees accounted for 40% of revenues generated for the purpose of remediation. Revenues from various forms of state aid accounted for 42% of remediation funding sources and federal funding was estimated to be about 4% of revenue. At 4-year institutions, tuition and fees comprised 53% of revenue. State and federal funding was 42% and 3%, respectively of the revenue base (City of New York, 1999).

In response to the aforementioned data on remedial costs at the City University of New

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Table 4
The Institute for Higher Education Policy Remedial Education Cost Analysis

State Remediation Cost
$27 million or 3% of total expenditures

Community College FTE Cost Comparisons

Academic program	Cost per FTE
Remedial education	$6,709
General studies	$6,163
Computer information systems	$6,760
Business management	$7,730
Nursing	$8,235

Note: Data were for 1996-97 for the state of Arkansas

Table 5
City University of New York Remediation Cost and Revenue Analysis

Total Remediation Spending	
$124 million or 8% of total expenditures	
23% of community college expenditures	
Community college	**Cost per FTE**
Remediation	$4,660
Average of all academic programs	$7,079
Revenue source	**Percent of total revenue**
Tuition and student aid	62%
City and state funding	33%

Note: Data were for the 1996-97 year CUNY system colleges

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York, the CUNY University Faculty Senate (1999), provided an alternative analysis. The Faculty Senate report indicated a significantly lower cost of remedial instruction and cited several flaws that distorted the data published by the Mayor's Advisory Committee on CUNY (City of New York, 1999). The actual cost of remedial instruction as indicated in the Faculty Senate report was $30 million or 2.3% of the total budget. The discrepancy between these figures and the $124 million reported by the City of New York was explained in two ways. First, English as a Second Language (ESL) and continuing education costs were combined with remedial costs, even though these programs were distinguished and self-supporting in all aspects of their operation. It should also be noted that the inclusion of ESL and continuing education costs is not the standard practice for evaluating the costs of remediation. The federal government, for instance, does not include ESL or continuing education in its studies of remediation (National Center for Education Statistics, 1996). Neither did any of the other studies of remediation costs cited in this article.

Second, in the City of New York report remedial education was also assigned a percentage of the indirect costs of all university operations. The Faculty Senate argued that although this may have been a valid cost-accounting technique, it did not reflect the actual cost of delivering remediation. That is, a large portion of the City of New York's reported remedial education cost ($124 million) could not be reduced if remedial education were eliminated entirely. It was suggested that the reason for purposely inflated remedial education cost data was to support unsubstantiated assertions that academic standards were declining, that open admissions were harmful to these standards and should be eliminated, and that remediation should be privatized (University Faculty Senate, 1999). This was but one example of the difficulty in assigning valid and reasonably accurate cost estimates to the delivery of remedial education services.

Limitations of Collecting Cost Data

Several limitations to collecting reliable remedial education cost data apply in any such study. As shown in the CUNY example, accounting techniques can lead cost estimates in any direction for which there is a politicized agenda. In addition, readers should consider the following.

The lack of a consistent definition of what constitutes remedial education poses challenges to both data collection and comparison of costs (City of New York, 1999). Programs such as ESL serve underprepared students, yet they may or may not be defined as remedial. The cost of services such as advising, tutoring, and testing should be, but are not always, considered, since they serve both remedial and nonremedial students (The Institute for Higher Education Policy, 1998).

Accounting techniques can lead cost estimates in any direction for which there is a politicized agenda.

Remedial standards also vary across institutions and states. Those with a broad definition of what constitutes academic deficiency would serve a larger percentage of students and, therefore, would report higher relative costs (The Institute for Higher Education Policy, 1998).

Instructional issues further complicate cost calculations. Many faculty teach both remedial and college-level courses (The Institute for Higher Education Policy, 1998). This complicates the accounting process by requiring that salary and benefit costs be allocated accordingly for the two activities. There are also complexities involved with identifying and accounting for the expense of the ongoing instruction of underprepared students who "slip through the cracks." This is sometimes the case at institutions where placement into remediation is not mandatory. It is not uncommon for faculty to spend extra time and effort modifying their course materials and instruction techniques to accommodate these students. This is also speculated to be the case for some students who pass basic skills screening tests, yet still struggle with academic deficiencies (City of New York, 1999).

Program logistics also present problems in the collection of cost data. Remedial courses for a particular subject are frequently housed in their respective academic departments. National data suggest that this is the case for about half of all remedial programs (Boylan, Bonham, & Bliss, 1994). Decentralized program structures probably require greater effort to separate out remedial costs.

There is also speculation that, for various reasons, institution officials actually understate the true cost (and extent) of remediation. They prefer to do this in order to avoid the potential for increased public scrutiny. There is also motivation to avoid the possibly misplaced perception that remedial education sacrifices the academic quality standards of the institution (Breneman, 1998).

Revenue from Remedial Education Activities

Does remediation pay for itself? For every case in which revenues generated by remedial education were reported, the revenues fully covered, if not exceeded, the costs of delivering the service. There were no reports of remedial programs that operated at a loss. Some examples include:

- Onondaga Community College in New York reported that each $1 million spent on remediation generated $1.3 million in revenue for the college (Testone, 1997).
- The state of Kentucky reported that remediation at its universities was fully covered by tuition revenue (Breneman & Haarlow, 1998).
- A moderately sized midwestern community college reported that tuition revenue generated significantly more than the salary costs of remedial instruction. When combined with state aid revenue, the program generated $580,000 in revenue over and above remedial instruction salaries (McGinley, 1999).
- In a proposal on financing remediation at CUNY, the average revenue per FTE generated at community colleges was reported to be $9,130 in 1997. Compared to an average cost of remediation per FTE of $4,660, it was inferred that remedial education was generating as much as $4,500 in net revenues (Hauptman, 1999).

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In essence, remedial courses seldom cost institutions more than they generate in revenues. Furthermore, in community colleges in particular remedial courses typically generate more revenue than is spent in their delivery. It is reasonable to assume, therefore, that an unknown but probably substantial amount of the money allocated for remediation is often spent on other courses and services, particularly at community colleges.

Discussion

In addition to the limitations of collecting remedial education cost data, several issues preclude a comparison of the cost estimates cited in the literature. Some of these include scope (e.g., state versus college system), size of data set, type of data reported (appropriations or expenditures), and time period of reported data. Therefore, the data from individual studies should not always be taken at face value. And, given these limitations and inconsistencies, it is not recommended that any wide-sweeping strategic decisions about delivering, modifying, or eliminating remedial education be based solely on these data.

However, one similarity can be noted from remedial education cost studies. In this literature, statewide remediation costs are always measured in single digits. That is, remediation typically costs less than 10% of education as a whole, and, in most cases, this figure is in the 1% to 2% range. This might suggest, given the 41% of incoming community college and 30% of incoming university students participating in remedial courses (National Center for Education Statistics, 1996), that a relatively small amount is being spent on remediation services and that funding growth in this area is stagnant. Of course, this is speculation; there are noted problems with the reported estimates and no ongoing research tracking growth in remedial education services has been identified. However, if any credibility at all is given to the available research, it appears that relatively little money is being invested in raising the academic standards of a significant number of entering college students. Many of the arguments made in the literature support the notion that this is positive and that any public scrutiny of this activity is unwarranted due to its negligible cost. Nonetheless, the main criticism lies in the use of federal and state funds, whatever the amount, for college remediation.

A typical opposing argument is offered in a commentary by Laurence Steinberg published in Breneman and Haarlow's (1998) study. Steinberg agrees that the cost estimates available for remedial education are understated. He suggests that underestimating the extent and cost of remedial education offers several benefits to education administrators and instructors. For administrators, the low estimates mask the weak performance of secondary schools. The cost of teaching basic skills is also being passed to colleges, again benefiting secondary schools. Postsecondary institutions benefit by filling seats in their remedial courses, and college remedial education instructors reap the benefit of continued employment. Steinberg also argues that accepting remedial students "dumbs down" the college curriculum and directs scarce college resources away from bona fide college programs.

A supporting argument characterizes remedial education spending as an investment. The hypothesis made here is that, in the long run, educating individuals will decrease the likelihood of their future dependency on social programs. McCabe (n.d.) shows how a relatively small investment (of $720 per remedial student) made by the state of Florida, may negate significantly higher costs of social dependency in the future. This investment appears quite favorable when compared to the cost of 1 year of prison ($25,400) or 1 year of supporting a dependent family ($30,000 to $40,000). No research was identified which suggests that there is either successful remediation or a life of dependency for underprepared students, but the point is made that educating underprepared students may lower their potential for social dependency.

No ongoing research tracking growth in remedial education services has been identified.

Abraham (1998) also supports spending on college remediation but addresses it from a productivity standpoint. Using calculations of earning potential from the Census Bureau and speculating that if 30% of remedial students earn bachelor's degrees, he calculates that these students would contribute as much as $87 billion in federal and state taxes over a lifetime of work. This figure is more than double the estimated $43 billion that would be contributed should these students be denied access to higher education. At a national cost of $1 billion per year for remedial education, an additional $44 billion in tax revenues covers the cost of remedial education for all students for 44 years!

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