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ABSTRACT

In 1996, the Illinois Board of Higher Education and the Community College Board jointly conducted a survey of remedial/developmental education in the state's public community colleges and universities. Data from the Integrated Postsecondary Education Data System were analyzed for 1995-96 and surveys were distributed to all public colleges and universities requesting information on the scope of remedial/developmental education, its cost, and the effectiveness of such efforts. Results, based on responses from 39 colleges and 12 universities, included the following: (1) 14% of community college students took at least one remedial/developmental course in 1995-96 and about 7% of university undergraduates did, compared to national figures of 17% for public community colleges and 11% for public universities; (2) 9 out of 10 Illinois students who took a remedial/developmental course did so at a community college; (3) two-thirds of university and 60% of community college remedial credit hours generated in 1995-96 were in mathematics; (4) 1% of university and 6.5% of community college direct salary costs were for remedial/developmental courses; and (5) over three-quarters of the colleges and the majority of universities tracked remedial students' progress in subsequent college-level coursework. Contains 11 references. Appendixes provide a list of related Board reports, a description of the survey methodology, and the survey instrument. (HAA)

The Scope and Effectiveness of Remedial/Developmental Education in Illinois Public Universities and Community Colleges

Illinois State Board of Higher Education

Item #8
September 3, 1997

STATE OF ILLINOIS
BOARD OF HIGHER EDUCATION

THE SCOPE AND EFFECTIVENESS OF REMEDIAL/DEVELOPMENTAL EDUCATION IN ILLINOIS PUBLIC UNIVERSITIES AND COMMUNITY COLLEGES

Executive Summary

During this past year, the staffs of the Board of Higher Education and the Illinois Community College Board cooperatively designed a survey of remedial/developmental education in Illinois public community colleges and universities. The survey investigated three questions: 1) What is the scope of remedial/developmental education? 2) How much does it cost? 3) How effective is it? This report presents the results of that survey and provides strategies to implement existing policies for discussion by the higher education community.

Major results of the 1996 survey reveal that:

- The amount of remedial/developmental courses provided by public community colleges and universities has increased since the last time such information was collected in 1982 for universities and in 1991 for community colleges. Fourteen percent of community college students took at least one remedial/developmental course in fiscal year 1996 and about 7 percent of university undergraduates did. This compares to national figures of 17 percent for public community colleges and 11 percent for public universities.

- Nine out of ten Illinois students who took a remedial/developmental course did so at a community college.

- The majority of remedial instruction is in math. Two-thirds of university and 60 percent of community college remedial credit hours for fiscal year 1996 were in math.

- While costs for remedial/developmental courses have risen, the percentage of faculty salary costs devoted to remediation is still small. Only one percent of university and six and a half percent of community college direct salary costs were for remedial/developmental courses.

- Most institutions collect basic information that assesses students' basic skills upon entry to the college and tracks their progress while they take remedial/developmental courses. Fewer institutions, however, track students beyond remedial/developmental coursework to determine how successful they are in regular college-level coursework and whether they complete college-level programs.

- Among recent institutional initiatives to better deliver and evaluate remedial/developmental instruction are the development of "learning communities," tracking systems that look at the different entering characteristics of students in remedial/developmental courses, integrated curricula that motivates students, and feedback loops between faculty in remedial/developmental and regular college programs.

September 3, 1997

STATE OF ILLINOIS
BOARD OF HIGHER EDUCATION

THE SCOPE AND EFFECTIVENESS OF REMEDIAL/DEVELOPMENTAL EDUCATION IN ILLINOIS PUBLIC UNIVERSITIES AND COMMUNITY COLLEGES

During the past year, national discussions have occurred about the effectiveness of higher education. Within the larger framework of accountability, the role of remedial/developmental education in higher education has come under scrutiny. Much attention is being paid to who needs remedial/developmental education and why, how much it costs, and whether it is effective.

The general public perceives that students today are less prepared for college than they were two or three decades ago. Reports of the decline in students' ACT and SAT scores in the 1970's and 1980's tend to support this perception, even though test scores have been rising since the mid-1980's. The issue of remedial/developmental education has been perennial for higher education in this country. A century ago, more than 40 percent of college freshmen enrolled in pre-collegiate programs to prepare for regular college coursework (Levine in NCES, 1991, p. 1). In Fall 1995, the National Center for Education Statistics reported that 29 percent of freshmen entering public and private two- and four-year colleges enrolled in at least one remedial/developmental course (NCES, 1996, p. 9). Another source reported that 13 percent of all students—not just freshmen—took a remedial course in 1994 (Knopp, 1995, p. 1). While the *percentage* of students within higher education who need remediation has declined considerably compared to 100 years ago, higher *numbers* of students today continue their education beyond high school. Nontraditional students, that is, older students or those who earned an alternate credential to the high school diploma, in particular are entering college in greater numbers. And with more than 42 percent of high school graduates enrolling in college in 1994 (NCES, 1996, p. 54), the need for 29 percent of freshmen to remediate constitutes a considerable challenge for many colleges and universities.

The Board of Higher Education's *Master Plan Policies for Higher Education* defines remediation at the postsecondary level as "coursework that is designed to correct skills deficiencies in writing, reading, and mathematics that are essential for college study." Students who are high school graduates or who earned the equivalency of a high school diploma but who do not possess college-level skills in writing, reading, and math are included in this definition. Remedial is intended to mean "pre-collegiate," in the sense that students do not possess the necessary skills to succeed in regular collegiate-level coursework. Other terms such as "developmental," "compensatory," "preparatory," or "basic skills" are also used by colleges and universities to indicate less-than-collegiate-level work. In community colleges, students enrolled in Adult Basic Education (grades zero through eighth competency levels) and Adult Secondary Education (grades nine through twelve) are considered separately from those students in remedial education. English as a Second Language (ESL) is excluded from what is considered remediation if the instruction or services are provided primarily to foreign students.

This report presents the results of a survey conducted by the staffs of the Board of Higher Education and the Illinois Community College Board of public universities and community colleges

that investigated three questions: 1) What is the scope of remedial/developmental education in Illinois public higher education? 2) How much does it cost? 3) How effective are remedial/developmental education efforts? The final section of this report presents strategies to implement existing policies for discussion by the higher education community within Illinois.

Recent National Studies

Recent studies have provided useful information about the characteristics of remedial/developmental students, including age, ethnicity, and extent of remedial/developmental education needed. Information collected by the National Center for Education Statistics shows that the distribution of the age groups of students who take remedial/developmental courses can be described as "bipolar," that is, one cluster of students who are the traditional age of most freshmen entering college right after high school, and another cluster of older, non-traditional students who have been out of high school for five years or more. Less than one-third of entering freshmen who took a remedial/developmental class in 1992-93 were recent high school graduates, 19 years old or younger. Close to half (46 percent) were at least 23 years old (Ignash, forthcoming). These data contradict the common perception that the majority of students who take remedial/developmental courses in college are recent high school graduates. Substantial numbers of students who need remediation are those who return to college several years or more after high school graduation. There is a difference between the curricular, advising, and support needs of older and younger students which is important to consider in developing appropriate remedial/developmental education programs.

The question of access underlies any discussion of remedial/developmental education. Since minority students have historically been more underprepared for college, remedial/developmental education provides important opportunities for access to higher education. Fall 1992 IPEDS enrollment data for the U.S. show that, while three-fourths of students who took remedial/developmental courses were white, the proportional representation of minority students in remedial/developmental classes was higher than that of whites. Eleven percent of white students in the Fall 1992 took at least one remedial/developmental class, compared to 19 percent of African-American, Asian-American, and Hispanic students (Knopp, 1995, p. 2).

Even more seriously, more minority students took a remedial/developmental *reading* class than did white students (Ignash, forthcoming). Reading is critical to success in college. As reported by the Director of the Office of Educational Research and Improvement, U.S. Department of Education, "Deficiencies in reading skills are indicators of comprehensive literacy problems" and "we cannot continue to let high-school graduates believe that they have a good chance of earning a college degree if they leave high school with poor reading skills" (Adelman, 1996, p. A35).

Students who need remediation not only fall into different groups according to age and distance from the high school experience, but also in the amount of remediation required (Adelman, 1996, p. A35; Weissman, Silk, and Bulakowski, 1997). National studies have shown that there is a difference in the persistence and success rates of students who need one remedial course in math or English compared to students who need three or four remedial courses. Adelman reports that only 13 percents of students who took three or four remedial courses, and only eight percent of students who took more than four remedial courses, completed an associate's or bachelor's degree by age 30, compared to 43.5 percent of students who did not need to take a remedial course. This difference in degree completion rates of students who take three or more remedial classes is

important, since national studies also find that about half of all students who take remedial classes state that they plan to pursue a postbaccalaureate degree (Knopp, 1995, p. 1). The fact that many are not successful highlights a gap in student aspirations and what they are able to achieve.

What do national studies tell us, then, about the characteristics of students who need remedial/developmental education that can be of help in developing policy? First, almost half of the students who take remedial/developmental education are older students who have been out of high school for five years or more. Second, reading is a more serious deficiency than those in math or writing, since it is the foundational skill for success in almost all other courses. Third, proportionally more minority students take remedial/developmental classes, and remedial/developmental *reading* classes, than do white students. Fourth, students who need only one remedial/developmental math or composition class tend to be as successful as students who do not need any remedial/developmental work upon entry to college. Students who need three or four remedial/developmental courses are the ones who are seriously at risk.

Illinois' Response

The Board of Higher Education and the Illinois Community College Board have been concerned for several decades about the need for remediation of underprepared students in higher education. Since the late 1970's, reports to the Board of Higher Education describe in detail efforts to improve student preparation. (See Appendix A for a list of these reports.) Considerable analysis has already been done on the characteristics of entering freshmen and on admissions standards and policies. Board of Higher Education policies on remedial/developmental education have been established since the 1980's. It is time to review strategies for implementing those policies and to determine which ones are successful and which ones need to be modified.

Reflecting a growing concern about the quality of education at all levels, in November 1985 the Board of Higher Education adopted high school course-specific requirements for admission to collegiate programs by public institutions and described the 15 units of high school subject credits which students must successfully pass to prepare for college. Effective for students entering colleges and universities in Fall 1993, the new admission requirements are only four years old and, while it is too soon to assess whether they are making a difference in the need for remediation, that assessment should begin in a few years. It is hoped that the revised admission requirements will make students and parents more aware of what is necessary to prepare for college. For example, in 1995, although two-thirds of Illinois high school seniors planned to attend college, just under half completed the courses required for admission to public colleges and universities.

Policies on student preparation, access, and retention were designed to raise standards while safe-guarding access to higher education. Adopted by the Board of Higher education in September 1986 and updated in 1990, the recommendations of the Committee on the Study of Undergraduate Education asked colleges and universities to inform potential students and their parents about adequate academic preparation for college, to establish special admissions programs for educationally-disadvantaged students and for those who did not have a chance to complete a college-preparatory curriculum in high school, to assess the academic needs of all entering students, and to provide remedial coursework as needed. These policies affirm the obligation to provide admitted students the remedial coursework or other academic support services needed to maximize the opportunity to succeed.

The Board of Higher Education policies adopted as a result of the recommendations of the Committee to Study Affordability also directly addressed remedial/developmental education and urged colleges and universities to facilitate the academic progress of students enrolled in remedial programs. These policies emphasized the need for institutions to accelerate degree completion for minority, adult, and placebound groups who have historically taken longer to complete their undergraduate degrees.

Also addressing the need for remedial/developmental education is the development of the High School Feedback System, begun in September 1986. This system reports to each Illinois high school the freshman performance of the high school's recent graduates to help high schools improve their college-preparatory curriculum. Public universities are required by statute to provide such information. Since most community college students attend the college within their community, freshman achievement data for the community college high school feedback reports are not aggregated for reporting at the state level. Instead, community colleges work with area constituencies to meet locally defined information needs.

Recently, the bar has been raised on what is considered remediation. In Fall 1993 the implementation of high school course requirements for admission to college resulted in the reclassification of intermediate algebra from collegiate-level to remedial/developmental-level mathematics. The new Learning Standards adopted by the State Board of Education in July 1997 will clearly articulate to high schools expected learning outcomes and will serve as the foundation for future refinements of admission requirements. The Standards define the specific knowledge and skills expected of students at particular grade levels to achieve the State Goals for Learning in seven areas: language arts, mathematics, science, social science, physical development and health, and fine arts, and foreign languages. This fall, the State Board will work with local educators, parents and the greater community to expand understanding about the Standards and to begin the implementation process.

Results of the Survey of Remedial/Developmental Education

During Summer and Fall 1996, staffs of the Illinois Community College Board and the Board of Higher Education cooperatively designed a survey that was sent to all public colleges and universities in Illinois. The study was designed to answer three questions: 1) What is the scope of remedial/developmental education within higher education? 2) How effective is it? 3) How much does it cost? Appendix B describes the methodology for the survey of public colleges and universities in fiscal year 1996.

For both scope and cost of remediation, we find that colleges and universities are doing more than they did the last time comparable information was gathered in 1991 for community colleges and in 1982 for universities. Not surprisingly, the community colleges provide the bulk of remedial/developmental courses. Table 1 below shows that almost nine out of ten students who took a remedial/developmental course at a public institution in Illinois did so at a community college.

Table 1-A
Scope of Remediation by Sector of Higher Education, FY 1996

	Community Colleges		Public Universities	
Number of Credit Hours	461,917		54,575*	
Percent of Undergraduate Credit Hours	9.1	%	1.4	%
Students: Unduplicated Headcount	82,938		11,278	
Percent of Total Undergraduate Students	14.1	%	6.9	%

*Credit hours reported here exceed the number reported in Table 2 because of the inclusion of 946 credit hours of "Other" remedial/developmental coursework in addition to that provided in communication, reading, and math.

Table 1-B
Scope of Remediation for All Higher Education, FY 1996

	Community Colleges		Universities	
Percent of All Remedial Credit Hours in Public Higher Education	89.4	%	10.6	%
Percent of All Students Taking Remedial/Developmental Courses	88.0	%	12.0	%

To put the above information into a larger context, the percentage of Illinois students who took at least one remedial course was lower than the 13 percent reported in a recent national study by the American Council on Education (ACE). The ACE study also reported that 17 percent of public two-year and 11 percent of public four-year college students reported taking remedial/developmental courses (Knopp, p. 2). While the ACE study collected information for Fall 1995 only, instead of all of 1996 as the Illinois study did, it does provide a basis for comparison.

The amount of remediation provided by community colleges in Illinois has increased. The Illinois Community College Board reported that in fiscal year 1991, 63,739 (11.5 percent) of the students in public community colleges took at least one remedial course. In fiscal year 1996 the number increased to 82,938 (14.1 percent). For universities, it is not possible to compare the number of students enrolled in remediation today with previous studies conducted by Board staff since different units of measure have been used over the years.

Using credit hours as a measure of the scope of remediation, both universities and community colleges show an overall increase in remediation compared to earlier studies. Community colleges provided 310,797 remedial credit hours in communication, math, and reading skills in fiscal year 1991 (6.3 percent of all credit hours). Five years later in fiscal year 1996, that figure was 461,917 (9.1 percent of all credit hours). The last time a similar analysis was conducted for public universities was in fiscal year 1982, when 34,363 credit hours, (0.7 percent of all credit hours), were generated in remediation. Fourteen years later, that figure was 54,575 credit hours (1.4 percent of all credit hours). At least part of the increase is due to the 1993 reclassification of Intermediate Algebra from regular college-level to remedial coursework. Because of this change, remedial credit hours generated in math more than doubled for community colleges between fiscal year 1991 and fiscal year 1996, while remedial credit hours remained fairly constant for communications skills and increased somewhat for reading.

The majority of remedial/developmental instruction is in math. Two-thirds of university and 60 percent of community college remedial/developmental credit hours for fiscal year 1996 were generated in math. Considerably fewer students needed remediation in reading—a far more

serious skill deficiency. Table 2 shows the percentage of instruction for each of the three remedial/developmental skill areas:

Table 2
Remediation by Subject Area, Fiscal Year 1996

Courses	Unduplicated Headcount	Percent by Sector	Credit Hours	Percent by Sector
Communication				
Universities	3,116	10.1%	11,541	9.8%
Community Colleges	27,775	89.9%	106,086	90.2%
Total	30,891	100.0%	117,627	100.0%
Reading				
Universities	2,080	9.6%	6,093	7.5%
Community Colleges	19,614	90.4%	75,168	92.5%
Total	21,694	100.0%	81,261	100.0%
Math				
Universities	8,760	12.0%	35,995	11.4%
Community Colleges	64,236	88.0%	280,663	88.6%
Total	72,996	100.0%	316,658	100.0%

Studies have indicated that both math and writing skills deteriorate over time, if not used regularly. The higher proportion of students taking remedial/developmental math and, to a lesser extent, communications courses which emphasize writing skills, may reflect the bipolar age distribution of those who take remedial/developmental courses. Students who have been out of school for some time may only need a short "refresher" math or writing course to review material they have forgotten. Prairie State Community College, for example, offers workshops for returning students before they take the College's entry assessment tests. The College discovered that students who had been out of high school for several years or more often scored low on assessment tests, but caught up fairly quickly after several weeks back in the classroom.

The results of the second major question the study investigated, how much remediation costs, is shown in Table 3. In fiscal year 1991, community colleges spent a little more than five percent of direct salary costs (excluding support staff and other indirect costs) for faculty to teach remedial/developmental courses. In fiscal year 1996, that figure was six and a half percent. The community college portion of direct salary costs for all remedial/developmental education provided by Illinois public higher education in fiscal year 1996 was 87 percent; the university share was 13 percent. And while universities spend a considerably smaller amount on remediation than community colleges do, the percentage has also increased from a little over half of one percent in fiscal year 1980, the last year that such information was collected, to just over one percent.

Table 3
Cost of Remediation (Direct Faculty Salary Costs)

	FY1980	Percent	FY1991	Percent	FY1996	Percent
Universities	$959,338	0.6%			$3,429,600	1.1%
Community Colleges			$14,636,841	5.1%	$23,437,916	6.5%
Total					$26,867,516	

While $27 million spent on remedial/developmental education is a large amount, it represents a small proportion when set in the context of what is spent for all direct faculty salary costs to teach students in fiscal year 1996, $313 million for universities and $359 million for community colleges. There are other costs associated with remediation that are difficult to measure because they often serve remedial and non-remedial students, such as computers and support staff.

The third major question of the study is the most difficult to answer: How effective *is* the remedial/developmental education that institutions provide? There are no measures used by all institutions to indicate how well students do once they move beyond pre-collegiate coursework. On follow-up measures that assess student performance after they successfully complete remedial/developmental instruction, such as pass rates of students in freshmen composition or College Algebra, evaluation is uneven. Most of the public universities and community colleges, however, reported some attempt to measure the effectiveness of remedial/developmental education. Those efforts are reported in more detail in the following sections of this report.

Remedial/Developmental Education in Public Community Colleges

As a result of Board of Higher Education policies, community colleges have been designated as the primary providers of remedial/developmental education in the state. Likewise, nationally, public two-year colleges have been identified as particularly important providers of remedial/developmental education (NCES, 1996, p. 37).

This section of the report highlights information about remedial/developmental education in Illinois' public community college system. Sources of information include a survey conducted by the Illinois Community College Board (ICCB) and data contained in ICCB administrative databases. The scope, cost, and effectiveness of remedial/developmental education in the community college system will be examined.

Scope

Community colleges are open door institutions which provide access to higher education to Illinois citizens with diverse levels of academic preparation and educational goals. Table 4 displays the number of students at each college that enrolled in one or more remedial courses during fiscal year1996.

Nearly 83,000 students took remedial/developmental courses at Illinois community colleges in fiscal year 1996. Hence, approximately 14 out of every 100 students enrolled at a community college was taking remedial/developmental coursework. The proportions of students enrolling in remedial/developmental coursework varied among the colleges. This information was not available for Metropolitan Community College.

A separate study conducted by the Office of Planning and Research at City Colleges of Chicago provides evidence that the data in Table 4 understates the scope of remedial/developmental education at the City Colleges. As reported to the Illinois Community College Board, 18,088 students at the seven City Colleges enrolled in remedial/developmental courses for credit during fiscal year 1996. However, a second, pre-credit remedial program operated by City Colleges offers instruction in the basic skills to high school graduates whose placement test scores fall below the level prescribed for remedial credit courses. Pre-credit courses are offered free of charge. Enrollment data for pre-credit remedial courses are not part of the enrollment data reported to ICCB, since the courses do not generate credit hours. According to the study conducted by City Colleges of Chicago, in the Fall of 1996, 33,609 credit and pre-credit students were enrolled in the City Colleges.

Table 5 shows the number and percent of students enrolled in remedial/developmental courses by subject. Because some students may have enrolled in more than one remedial/developmental area during fiscal year 1996, the numbers for each college represent a duplicated headcount and the percentages for each institution may equal more than 100 percent.

Numerous national, state and institutional studies have shown that the most heavily subscribed subject area for remedial coursework is mathematics. The same holds true for the Illinois community colleges. Overall, the number of students taking remedial coursework reported by subject area exceeds the actual number of students reported by the colleges by 35 percent. This indicates that about one-third of the students who took remedial courses during fiscal year 1996, required remediation in more than one subject area.

Cost

Table 6 compares direct faculty salary expenditures for remedial/developmental instruction with total faculty salary expenditures for fiscal year 1996.

Slightly more than $23.4 million in direct faculty salary expenditures for the Illinois community college system was directed to remedial instruction. This figure represents 6.5 percent of total direct faculty salary. By college, the proportion of direct faculty salary expenditures directed to remedial instruction ranged from 0.7 percent at Shawnee Community College to 12.2 percent at South Suburban College. It is difficult to draw direct correlations between the number of students served by remedial courses and the faculty salary dollars directed to that effort at the individual colleges. A number of factors may affect that relationship, including the size of the college, the organization of remedial/developmental education, full- and part-time staffing patterns, and the number of students that require remediation in more than one subject area. Some economies of scale may be realized for colleges with large student populations, as well as for colleges that rely heavily on large sections and/or computer-assisted instructional delivery for remedial students. However, students who require remediation in multiple subject areas generally are best served by small classes and close individual interaction with faculty. Colleges that serve large numbers of these students could be expected to direct a larger proportion of faculty salary dollars to this effort than colleges that largely serve students who require only one or two remedial/developmental courses.

Table 4

Community College Students[1] Enrolled in Remedial/Developmental Courses, FY1996

Community College	Number of Students Taking Remedial Courses	Total Community College Students	Percent of Total
Belleville	3,682	20,747	17.7 %
Black Hawk	1,847	11,608	15.9
Chicago	(18,088)	(115,673)	(15.6)
Chicago Daley	2,163	15,535	13.9
Chicago Kennedy-King	1,665	10,586	15.7
Chicago Malcolm X	1,905	11,992	15.9
Chicago Olive-Harvey	2,164	9,220	23.5
Chicago Truman	2,890	29,997	9.6
Chicago Washington	3,326	19,139	17.4
Chicago Wright	3,975	19,204	20.7
Danville	734	3,970	18.5
DuPage	6,079	48,438	12.6
Elgin	1,781	13,560	13.1
Harper	4,084	23,385	17.5
Heartland	1,138	5,240	21.7
Highland	881	6,571	13.4
Illinois Central	2,085	19,334	10.8
Illinois Eastern	(657)	(24,252)	(2.7)
Ill.Eastern Frontier	96	6,811	1.4
Ill.Eastern Lincoln Trail	193	1,831	10.5
Ill.Eastern Olney Central	258	2,056	12.5
Ill.Eastern Wabash Valley	110	13,554	0.8
Illinois Valley	786	5,835	13.5
Joliet	2,422	14,910	16.2
Kankakee	1,414	8,592	16.5
Kaskaskia	729	5,229	13.9
Kishwaukee	898	4,861	18.5
Lake County	3,234	22,356	14.5
Lake Land	1,284	8,932	14.4
Lewis and Clark	1,639	8,377	19.6
Lincoln Land	2,022	18,687	10.8
Logan	490	9,597	5.1
McHenry	1,142	8,100	14.1
Metropolitan	DNA	1,309	DNA
Moraine Valley	3,258	19,655	16.6
Morton	198	3,909	5.1
Oakton	3,935	22,552	17.4
Parkland	2,595	13,477	19.3
Prairie State	1,607	8,761	18.3
Rend Lake	239	8,905	2.7
Richland	920	5,461	16.8
Rock Valley	1,973	14,129	14.0
Sandburg	844	5,361	15.7
Sauk Valley	890	4,335	20.5
Shawnee	416	3,732	11.1
South Suburban	2,794	13,542	20.6
Southeastern	715	5,314	13.5
Spoon River	457	3,538	12.9
Triton	2,968	33,138	9.0
Waubonsee	1,285	9,157	14.0
Wood	728	3,448	21.1
Total	82,938	587,977	14.1 %

Source of Data: Annual Enrollment and Completion (A1) Submission

[1]Excludes Adult Education and English as a Second Language students.

DNA = Data Not Available

Table 5

Community College Students[1] Enrolled in Remedial/Developmental Courses by Subject

Community College	Communications		Reading		Math	
	Number of students[2]	Percent of students in remedial courses[3]	Number of students[2]	Percent of students in remedial courses[3]	Number of students[2,3]	Percent of students in remedial courses[3]
Belleville	590	16 %	1,268	34 %	3,062	83 %
Black Hawk	506	27	509	27	1,452	79
Chicago (sub-totals)	(9,119)	(50)	(5,230)	(29)	(12,423)	(69)
Chicago Daley	892	41	608	28	1,644	76
Chicago Kennedy-King	850	51	477	29	1,095	66
Chicago Malcolm X	791	42	250	13	1,597	84
Chicago Olive-Harvey	931	43	512	24	1,566	72
Chicago Truman	1,853	64	1,147	40	1,656	57
Chicago Washington	1,747	53	1,052	32	2,060	62
Chicago Wright	2,055	52	1,184	30	2,805	71
Danville	215	29	87	12	637	87
DuPage	926	15	932	15	4,965	82
Elgin	690	39	206	12	1,290	72
Harper	768	19	1,379	34	3,229	79
Heartland	328	29	193	17	953	84
Highland	252	29	170	19	824	94
Illinois Central	267	13	381	18	1,759	84
Illinois Eastern (sub-totals)	(171)	(26)	(110)	(17)	(556)	(85)
Ill.Eastern Frontier	29	30	8	8	77	80
Ill.Eastern Lincoln Trail	52	27	45	23	156	81
Ill.Eastern Olney Central	62	24	45	17	231	90
Ill.Eastern Wabash Valley	28	25	12	11	92	84
Illinois Valley	379	48	201	26	475	60
Joliet	754	31	705	29	1,817	75
Kankakee	755	54	205	14	997	71
Kaskaskia	256	35	114	16	565	78
Kishwaukee	256	29	184	20	749	83
Lake County	746	23	466	14	2,783	85
Lake Land	329	26	452	35	904	70
Lewis and Clark	545	33	200	12	1,453	89
Lincoln Land	691	34	259	13	1,722	85
Logan	137	28	80	16	385	79
McHenry	232	20	46	4	977	86
Metropolitan	DNA	—	DNA	—	DNA	—
Moraine Valley	828	25	804	25	2,687	82
Morton	89	45	45	23	88	44
Oakton	1,587	40	1,254	32	2,774	70
Parkland	1,077	42	727	28	2,052	79
Prairie State	633	39	332	21	1,234	77
Rend Lake	177	74	144	60	144	60
Richland	358	39	335	36	669	73
Rock Valley	517	26	489	25	1,525	77
Sandburg	336	40	155	18	697	83
Sauk Valley	194	46	207	23	778	87
Shawnee	106	25	100	24	357	86
South Suburban	886	32	888	32	2,235	80
Southeastern	214	30	119	17	602	84
Spoon River	55	12	35	8	426	93
Triton	1,274	43	291	10	2,294	77
Waubonsee	314	24	210	16	1,045	81
Wood	218	30	102	14	652	90
TOTAL	27,775	33 %	19,614	24 %	64,236	77 %

Source of data: Annual Enrollment and Completion (A1) Submission

[1]Excludes Adult Education and English as a Second Language students.

[2]These numbers represent an unduplicated headcount within each subject area. For example, if a student took two remedial/developmental communications courses and one math course, that student would be counted once for the communications category and once for math.

[3]Because some students may be enrolled in more than one remedial/developmental subject area (duplicated headcount), the row percentages for each institution may sum to more than 100%.

DNA = Data not available

Table 6
Community College Direct Faculty Salary Costs for Remedial/Developmental Courses, FY1996

Community College	Direct Salary Costs for Remedial/Developmental Courses	All Direct Salary Costs FY1996	Percent
Belleville	792,189	10,078,786	7.9 %
Black Hawk	380,751	8,369,052	4.5
Chicago	(6,542,503)	(79,935,720)	(8.2)
Chicago Daley	700,837	10,406,005	6.7
Chicago Kennedy-King	589,007	11,035,389	5.3
Chicago Malcolm X	824,744	11,640,536	7.1
Chicago Olive-Harvey	811,720	9,050,785	9.0
Chicago Truman	1,364,521	13,753,616	9.9
Chicago Washington	1,174,663	11,561,154	10.2
Chicago Wright	1,077,011	12,488,235	8.6
Danville	200,320	3,152,386	6.4
DuPage	1,177,640	29,915,957	3.9
Elgin	515,200	10,529,374	4.9
Harper	1,614,364	18,522,645	8.7
Heartland	252,312	2,438,547	10.3
Highland	164,172	3,276,693	5.0
Illinois Central	356,638	10,743,957	3.3
Illinois Eastern	(200,655)	(5,601,413)	(3.6)
Ill.Eastern Frontier	49,675	656,785	7.6
Ill.Eastern Lincoln Trail	63,933	1,086,538	5.9
Ill.Eastern Olney Central	38,733	1,815,779	2.1
Ill.Eastern Wabash Valley	48,314	2,042,311	2.4
Illinois Valley	168,798	3,903,822	4.3
Joliet	780,519	10,773,745	7.2
Kankakee	295,843	4,015,361	7.4
Kaskaskia	151,746	3,786,511	4.0
Kishwaukee	245,622	3,806,308	6.5
Lake County	897,331	14,427,892	6.2
Lake Land	205,505	5,107,510	4.0
Lewis and Clark	380,801	5,332,996	7.1
Lincoln Land	577,352	8,554,586	6.7
Logan	305,927	5,751,221	5.3
McHenry	299,051	4,406,454	6.8
Metropolitan	163,910	1,439,964	11.4
Moraine Valley	452,994	13,853,610	3.3
Morton	28,725	3,487,154	0.8
Oakton	1,162,224	13,612,158	8.5
Parkland	802,024	10,177,957	7.9
Prairie State	417,480	5,035,457	8.3
Rend Lake	119,187	4,236,506	2.8
Richland	311,386	3,294,086	9.5
Rock Valley	549,897	7,240,125	7.6
Sandburg	184,284	3,266,162	5.6
Sauk Valley	185,467	2,564,170	7.2
Shawnee	15,465	2,366,245	0.7
South Suburban	959,479	7,872,869	12.2
Southeastern	152,586	3,718,461	4.1
Spoon River	44,520	2,116,202	2.1
Triton	963,608	14,183,461	6.8
Waubonsee	254,062	5,808,399	4.4
Wood	165,379	2,259,675	7.3
Total	23,437,916	358,963,597	6.5 %

Source of Data: Illinois Community College Board Unit Cost Study

Effectiveness and Best Practices

The survey also examined the remedial/developmental program policies and components designed for effective program and service delivery within the Illinois community college system, including methods for referring students into remedial/developmental courses, common practices in placement testing, organizational structure, classroom instructional techniques, delivery modes, and student tracking.

Frequently mentioned methods to refer students to remedial/developmental coursework included placement test results, referrals by college professional staff, and self-referrals. Low placement test scores was the primary method of referral. In addition, approximately two-thirds of the colleges indicated that counselors and academic advisors referred students to remedial/developmental coursework. At nearly half of the colleges, faculty also referred students to remedial/developmental coursework. While six colleges specifically reported that students can elect to enter remedial/developmental coursework, many other colleges also allowed students to exercise this option. Colleges also noted that low scores on other types of tests, such as aptitude tests taken in high school or the Test of Adult Basic Education can lead to remedial/developmental referrals.

Assessment of basic skills is mandatory for selected students at all community colleges. National findings for public two-year colleges during Fall 1995 indicated that 90 percent of the colleges require placement testing of all entering students or those entering students who meet specified criteria (NCES, 1996, p. 22). In Illinois, the most frequently mentioned student groups required to take placement tests were those entering college-level math or English (by 82 percent of the community colleges) and those who enrolled full-time (80 percent of the colleges). Sixty percent of the colleges required part-time students to take placement exams, and just over half also required those declaring a program major to complete placement exams. Credit hour thresholds were used by slightly less than one-half of the colleges to require placement testing. Students may be exempt from testing if they can demonstrate academic skill proficiency in another approved way, such as high scores on SAT or ACT subject matter exams. Likewise those who come to the community college after earning college degrees elsewhere were also generally excluded from testing. Students who successfully complete advanced math in high school may sometimes be exempt from testing in math.

Twelve colleges relied on local writing samples as a component of the English assessment and five colleges developed their own math placement tests. Elgin Community College was the only institution to forego math placement testing entirely and relied on high school transcript analysis to determine math course placement. The College has subsequently initiated a pilot test of ACT *Compass* for math placement and to supplement other basic skills assessment. The widest variety of assessment tools were used to evaluate reading skills, although ACT and College Board tests still dominated placement testing in reading.

Nearly three-quarters of the colleges indicated that remedial/developmental instruction was integrated into academic departments. Illinois results are somewhat higher than national findings for public two-year colleges from Fall 1995, which indicated that an average of 58 percent of remedial/developmental instruction took place through academic departments (NCES, 1996, p. 23). In Illinois, almost a quarter of the colleges have a separate administrative structure for overseeing the delivery of remedial/developmental coursework. Only a few colleges, Harper College, Highland College, and Illinois Central College, indicated a hybrid approach where all

levels of math instruction were part of the academic department while reading and writing instruction were provided by a separate developmental education unit. At Rock Valley College, the directors of the specific academic areas and the Director of Developmental Studies co-direct these programs. The City Colleges of Chicago used another hybrid approach where students testing at the lowest levels were assisted in a separate unit while those who tested at an intermediate level or higher received instruction through the departments.

Several colleges commented on the strengths and weaknesses of each approach. Advocates of the integrated approach thought that it fostered articulation and smoother transitions between levels since faculty taught both remedial/developmental and college level courses. A limitation of the integrated approach, however, was the potential for remedial/developmental program needs to become lower priorities than other departmental offerings as budgetary, staffing, and student services decisions are made. Potential advantages of a separate administrative structure were more resources dedicated to remediation, an increased level of specialization in developmental teaching methods by faculty, and an increased level of advocacy on behalf of developmental students.

Two-thirds of the colleges relied on full semester-length courses for at least ninety percent of their remedial/developmental offerings, an traditional approach which works well for students who take a mixture of remedial and college-level courses simultaneously. Eleven colleges employed half-semester module scheduling and three offered modules of 11 or 12 weeks. Only ten colleges used open-entry and open-exit flexible scheduling for remedial/developmental coursework, which is widely associated with the field of adult education and provides maximum flexibility for the student who can progress at his or her own pace. One difficulty, however, lies in making the next course in the sequence, either developmental or college-level, available to students when they successfully complete an open-entry/open-exit course.

Eighty-seven percent of community college remedial/developmental faculty most frequently used a combined approach to remedial/developmental coursework that included lecture and learning lab activities. Computer-assisted instruction was the second most often cited approach. Just over half of the community colleges used individualized instruction and the use of student work groups and teams. Half of the institutions also reported that the lecture method was relied upon exclusively.

All colleges except Spoon River College had a learning lab for students in remedial/developmental courses to use, and Spoon River College officials were establishing a learning lab during Summer 1997. Sixty percent of the colleges indicated that they offered remedial/developmental education coursework off-campus. Just over one out of ten colleges provided remedial/developmental instruction through interactive distance learning. National data across institutional types indicates that only three percent of institutions offered remedial/developmental courses through distance learning (NCES, 1996, p. 27).

Colleges were asked if they tracked the progress of remedial/developmental students. Just over three-quarters of the colleges indicated that they track student progress from remedial/developmental courses into college level programs. Many community colleges have conducted studies which involve student tracking to assess the impact of curricular and evaluation policies on students who need remediation. The College of Lake County conducted a study of remedial/developmental students over two years, from Fall 1992 through Fall 1994, and refined polices based on results of the study. College officials compared outcomes for three groups of students: college-ready students, underprepared students who took the recommended

remedial/developmental courses, and underprepared students who did not take recommended remediation. The study investigated both the need for and timing of remediation and found significant differences among the three groups. Study results led to the following recommendations: students should be required to take necessary remediation; students should not delay taking remedial/ developmental courses; and students who have skill deficiencies in two or three basic skill areas (reading, writing, and math) should be required to focus on developmental education before beginning college-level coursework (Weissman, Silk, & Bulakowski, 1997).

Parkland College tracked outcomes for the Fall 1991 cohort of first-time freshmen who enrolled in remedial/developmental reading, English or math. Students were tracked for three years to determine how many passed the first directly related college-level course they took after remediation. Across subject matter areas, remedial/developmental students in lower level courses were more successful in completing their initial remedial/developmental course than students enrolled in upper level remedial/developmental courses. However, successful upper level remedial/developmental students were more likely to successfully complete the directly related college-level course within three years (Chen, 1995).

Moraine Valley Community College conducted a similar study to examine college-level course taking patterns, completion rates, and retention rates for students who successfully completed one of eight remedial/developmental courses between Summer 1990 and Spring 1993. Course taking patterns and completion rates were computed over three years. Separate cohorts were established by academic area and level of remediation needed. The study furnishes detailed information about successful remedial/developmental course completion and subsequent college-level course completion. The study also tracked the performance of students who had successfully completed remedial coursework in subsequent college-level courses in business, composition, history, sociology, humanities, philosophy, psychology and math. Results for students who successfully completed recommended remediation were then compared to grades attained by all students. Generally, students who successfully completed recommended remediation whose skills were in the mid to upper remedial/developmental range performed well in subsequent college level coursework. Study results revealed that students who placed in the highest level of remedial/developmental coursework and who completed the recommended remediation regularly performed much better than average for the entire student body in subsequent college-level courses. Students in middle-level courses in reading did slightly better than average in subsequent coursework. As Parkland College officials found, however, students starting at the lowest remedial/developmental levels were less successful than average in subsequent college-level coursework (Reis, 1996).

The City Colleges of Chicago recently conducted a study of remedial/developmental education. Descriptive information about entering Fall 1996 students and outcomes data for two other student cohorts are included in the report. Twenty-nine percent of all credit students enrolled in Fall 1996 were taking one or more remedial/developmental courses. Districtwide, sixty-nine percent of the fiscal year 1996 associate degree graduates from the seven colleges had taken remedial/developmental coursework at some point during their studies.

The City Colleges of Chicago has a two-tiered structure to its remedial/developmental offerings where students with who need higher level remedial/developmental instruction are placed in credit remedial/developmental courses and those whose skills need more substantial improvement are placed in pre-credit remedial/developmental courses. One component of the Chicago study examined the ability of a Fall 1994 cohort of students who successfully completed

the highest level of credit remedial/developmental coursework to successfully complete related college-level coursework within one year. Sixty-four percent of the writing and reading students who completed the highest level remedial/developmental English course went on to successfully complete the initial college level English course within a year. Forty-one percent of the students who completed the highest level remedial/developmental credit math course went on to successfully complete any college-level math course within a year (Gutierrez & Gonzalez, 1997).

Remedial/Developmental Education in Public Universities

This section discusses the public university results for the three primary research questions of the survey regarding scope, cost, and effectiveness.

Scope

While public universities provide far less remedial/developmental education than community colleges, university programs and services to students who need remedial/developmental are important in preserving access to higher education. The four public universities located near the large urban centers of Chicago and St. Louis (Chicago State University, Northeastern Illinois University, University of Illinois at Chicago, and Southern Illinois University at Edwardsville) provide considerably more remedial/developmental education than the eight other Illinois public universities, as shown in Table 7. Not surprisingly, the two upper-division universities, Governors State University and the University of Illinois at Springfield, offer very little or no remedial/developmental classes. The University of Illinois at Springfield offers no remedial/developmental courses and has an arrangement with both Lincoln Land Community College and Illinois Central College to provide remediation for students enrolled at the University. In interpreting these data, it is also important to remember that some universities informally refer students to community colleges or other educational providers for remedial/developmental courses.

Table 7
University Students Enrolled in Remedial/Developmental Courses, Fiscal Year 1996

University	Number of students taking remedial courses[1]	Total undergraduate students[2]	Percent at Each University
Chicago State	1,940	8,265	23.5 %
Univ. of Illinois at Chicago	2,839	18,249	15.6
Northeastern Illinois	1,084	9,226	11.7
Southern Illinois at Edwardsville	1,113	10,266	10.8
Eastern Illinois	695	11,164	6.2
Southern Illinois at Carbondale	1,247	22,165	5.6
Western Illinois	603	11,607	5.2
Univ. of Illinois at Urbana-Champaign	795	29,904	2.7
Northern Illinois	461	17,793	2.6
Illinois State	411	18,584	2.2
Governors State	90	4,326	2.1
Univ. of Illinois at Springfield	0	2,840	0.0
Total	11,278	164,389	6.9 %

[1]Unduplicated headcount of students in remedial/developmental courses, reported by the institution.
[2]Total undergraduate students, as reported by the University on the IPEDS, Institutional Characteristics Survey Form E.

Consistent with the results of national studies, Table 8 shows that Illinois public universities provided more remedial/developmental mathematics than English communications or reading.

Table 8
Public University Students Enrolled in Remedial/Developmental Courses by Subject

University	Communications		Reading		Math	
	Number of students[1]	Percent of students in remedial courses[2]	Number of students[1]	Percent of students in remedial courses[2]	Number of students[1]	Percent of students in remedial courses[2]
CSU	628	32 %	464	24 %	1,789	92 %
EIU	37	5	178	26	540	78
GSU	0	0	0	0	90	100
ISU	4	1	36	9	371	90
NIU	363	79	278	60	436	95
NEIU	344	32	128	12	753	69
SIUC	0	0	306	25	931	75
SIUE	609	55	383	34	846	76
UI-C	385	14	253	9	2,178	77
UI-S	0	0	0	0	0	0
UIUC	431	54	54	7	494	62
WIU	315	52	0	0	332	55
Total[3]	3,116	27 %	2,080	18 %	8,760	78 %

[1]These numbers represent an unduplicated headcount within each subject area. For example, if a student took two remedial/developmental communications courses and one math course, that student would be counted once for the communications category and once for math.
[2]Because some students may be enrolled in more than one remedial/developmental subject area (duplicated headcount), the row percentages for each institution may sum to more than 100%.
[3]The total unduplicated headcount for public university students who took remedial/developmental classes in FY1996 was 11,278, as shown in Table 4.

Cost

Table 9 below provides information by campus on the second of the survey's primary questions: How much do universities spend on remedial/developmental education?

Table 9
Public University Direct Faculty Salary Costs for Remedial/Developmental Courses, FY 1996

University	Direct Salary Costs for Remedial/Developmental Courses, FY1996[1]	All Direct Salary Costs, FY1996[1, 2]	Percent
CSU	$ 702,200	$ 10,721,600	6.5 %
UNI	493,000	13,797,300	3.6
SIUE	370,400	16,894,000	2.2
NIU	703,000	34,948,400	2.0
EIU	358,000	21,021,000	1.7
UI-C	447,200	39,092,400	1.1
WIU	75,400	19,304,900	0.4
UI-UC	215,900	88,082,900	0.2
GSU	12,300	6,640,700	0.2
ISU	34,600	28,425,500	0.1
SIUC	17,700	29,024,500	0.1
UI-S	0	4,764,300	0.0
Total:	$3,429,700	$312,717,500	1.1 %

[1] Rounded to nearest $100.
[2]From Line 201 of the Public University Cost Study.

Table 9 reports only direct instructional costs for remediation. Indirect costs for staff and equipment incurred as a result of individualized, laboratory, or learning center assistance are not reported here because of the difficulty in extracting accurate information. Most campus learning centers provide an array of assistance to students, including peer tutoring, individual staff assistance, informal small group instruction, computerized individual learning, and special workshops. Since all students can use these services, it is difficult to capture costs involved in providing assistance to just those students who need remediation.

Not surprisingly, Chicago State University spent a higher percentage of direct salary costs for remedial/developmental courses than the other public universities. Chicago State University offered 193 sections of remedial/developmental courses in fiscal year 1996, the highest number of any of the universities and had almost a quarter of its undergraduate student body enrolled in remedial/developmental classes. Northeastern Illinois University and Southern Illinois University at Edwardsville also reported higher than average direct salary costs for faculty to teach remedial/developmental classes, which is consistent with the fact that they enrolled 12 and 11 percent of their undergraduate students, respectively, in remedial/developmental classes, as reported in Table 7. Table 7 also shows that the University of Illinois at Chicago enrolled a higher percentage of its undergraduates in remedial/developmental classes, mostly for developmental math. But direct salary costs for remediation were lower than might be expected because the University uses more graduate teaching assistants than other universities and because total enrollment was so large that an economy of scale was achieved.

Southern Illinois University at Carbondale spent very little on direct salary costs for remediation because the University offered few remedial/developmental classes on its campus and referred students to John A. Logan College for most remedial/developmental instruction. A bus runs between the two campuses so that the University's students can take remedial/developmental courses.

Effectiveness and Best Practices

The third primary question of the study explored the effectiveness of remedial/developmental education and asked institutions to provide information about program structure and delivery systems; assessment practices; accountability measures, such as tracking students between remedial/developmental education and college-level courses; and special studies and best practices.

The matrix in Table 10 on the following page provides a summary of public university program delivery, assessment practices, and evaluation strategies for remedial/developmental education. This matrix was developed from university responses to questions on the survey.

The Board of Higher Education's policies recommend that all universities assess students at entry and at various points throughout the undergraduate experience. Assessment practices at public universities vary. Two universities do not mandate assessment of basic skills for entering or transfer students, although one of these institutions does assess only students who enroll under alternate admissions programs. Most universities used a combination of methods to assess students' basic skills. Nine of the 12 universities used college placement or university proficiency tests to assess basic skills. Most universities used other methods in combination with test results to assess students' proficiency in basic skills and to refer students to remedial/developmental coursework, such as referrals by faculty or advisors.

Table 10

Matrix of Program Structure and Delivery Systems for Public University Remedial/Developmental Education

	CSU	EIU	GSU	ISU	UNI	NIU	SIU-C	SIU-E	UI-C	UI-S	UIUC	WIU
Offered "stand alone" remedial programs		x	x		x		x[3]	x	x		x	x
Offered integrated remedial programs	x	x		x		x	x[3]	x	x		x	x
Offered remediation off -campus			x		x		x					
Offered remediation via distance learning					x							
Formally referred students elsewhere for remediation										x		
Informally referred students elsewhere for remediation		x	x	x		x	x				x	x
Mandated assessment of full-time entering students	x	x	x	x	x		x[3]	x	x			x
Mandated assessment of part-time entering students	x		x	x	x			x	x			x
Mandated assessment for alternate admissions students only						x						
Mandated assessment of transfer students	x	x[1]	x	x	x			x				
Assessed basic skills of students at approximately junior year		x	n/a		x			x[3]				x
Advisors referred students to remedial courses	x		x	x	x		x	x	x		x	x
Faculty referred students to remedial courses			x	x			x	x	x		x	
Students mandated to remediate, based upon assessment	x	x			x[3]			x			x[4]	x
Collected information about the number of students in remedial courses	x	x	x	x	x	x	x[3]	x			x	x
Collected information about the number of students in informal remediation	x		x									
Tracked retention of students in remedial activities	x		x	x	x		x[3]	x	x		x	
Tracked students who took remedial courses between semesters or academic years	x		x[2]	x	x		x[3]	x	x		x	
Tracked advancement of students from remedial to college-level coursework	x		x[2]	x	x				x			x
Tracked completion/graduation rates of students who took remedial courses				x			x[3]				x	
Tracked persistence and/or achievement of only those students in special admissions programs		x				x						
Able to measure student progress in the subjects in which they remediate			x	x	x	x	x[3]	x	x		x	x
Feedback loops connected faculty who teach remedial and regular courses	x	x	x[2]	x	x	x	x[3]	x	x			x
Within the last 5 years, implemented or planned special studies or initiatives for students who need remediation	x	x			x	x		x	x			x

[1] For students with less than 30 hours. [2] Informally only. [3] For certain departments only. [4] For special or alternate admissions students only.

Six universities reported that they assessed students' writing competencies through some kind of formal assessment at the junior year, even though a more formal standardized "junior rising exam" was used by only three institutions. At two other universities, assessment was embedded in course and departmental initiatives rather than accomplished through a formal university-wide competency exam.

Perhaps the most complete rising junior assessment was reported by Western Illinois University, where all juniors take the ACT Collegiate Assessment of Academic Proficiency exam. The University reported that 90 percent of students pass the English skills portion of this test, the *University Writing Exam*, on the first try. There is no required passing score for the mathematics test. On both the writing and math exams, mean scores were at the national norm. As a result of the focus upon student outcomes, the University has recently taken these actions: 1) a faculty senate ad hoc committee was established to investigate all aspects of the comprehensive writing program; 2) the faculty reviewed and revised the basic English composition courses for freshmen and sophomores so that they are more congruent with expectations of faculty; 3) the University added more sections of the basic freshmen and sophomore English composition courses to ensure that enrollment of juniors and seniors in these courses does not prevent lower division students from receiving instruction in writing early in their college careers; and 4) the Academic Affairs department worked with the Registrar's office and with advisors to assure that students take the University Writing Exam as rising juniors and that all students take the basic freshmen and sophomore composition courses before taking the University Writing Exam.

For accountability purposes, most universities collect at least some basic information about the number of students in remedial/developmental courses. Fewer institutions collect any information on the extent of informal remediation. Measures of retention, persistence, and graduation/completion rates provide more thorough information for assessing the effectiveness of remedial/developmental programs. While most universities tracked student retention *within* remedial activities, fewer tracked students beyond remedial/developmental classes to determine how successful students were after remediation.

A useful measure of effectiveness that the majority of universities employed was to track how well students performed in college-level math and English classes after they successfully completed remedial/developmental classes. The University of Illinois at Chicago reported that the English and math departments track students who take their remedial courses to determine their rate of success in more advanced courses. Southern Illinois University at Edwardsville periodically compares the performance of students who take remedial/developmental classes in subsequent general education courses with those students who were better prepared and took regular general education courses upon entry to the University.

Another important measure of effectiveness are "feedback loops" between remedial/developmental education faculty and faculty who teach in other academic departments on campus. For example, an effective feedback loop would connect instructors of remedial/developmental English with faculty who teach Freshman Composition and other content areas so that the content of the remedial/developmental writing courses could be periodically evaluated and refined. Seven universities reported that information on the progress of students in remedial/developmental courses was formally linked to other college curricular efforts. At the University of Illinois at Chicago, courses offered by the English and math departments are integrated into the curriculum. The faculty of these departments teach both the remedial and regular college level courses so that there is continual feedback about student progress in the

advanced courses. The chemistry and math departments also cooperate in teaching special sections of intermediate algebra and preparatory chemistry courses in an integrated fashion.

Six universities reported conducting special studies or campus initiatives within the last five years that addressed remedial/developmental education, most of which were aimed at improving curricula and tracking the success of remedial/developmental students. Perhaps the most comprehensive effort was reported by Southern Illinois University at Edwardsville, which has developed a "learning communities" model to link developmental reading and writing courses with selected general education courses, in a sort of "bridge" program between remedial/developmental and collegiate-level work. Special learning communities in the general education courses in the fields of anthropology, sociology, theater, music, and speech offer the following advantages: 1) students have an opportunity to develop closer study relationships with each other and with the instructors, 2) a learning environment is created which integrates skill development with content knowledge and content literacy strategies, 3) students are provided with an opportunity to enroll in general education courses which otherwise would have been prohibited, and 4) support from reading and writing instructors is available to supplement the work of the general education instructor. The University is currently investigating whether students who enroll in these learning communities develop study behaviors conducive to their academic success and whether they succeed in the general education portion of the learning community.

Discussion of Strategies for Implementation of Policies

Over the years, a number of the Board's policies have been directed at improving student preparation for college, such as the adoption of high school course requirements for admission to college and the establishment of the High School Feedback System. Over the past 20 years, Board of Higher Education and Illinois Community College Board staff have considered some of the causes of poor student preparation for college, such as the gap between the future aspirations of children and their parents and their understanding of what it takes to get there, the heterogeneity of the students who need remedial/developmental education, and the need for clear academic and occupational skills standards. Even though policies directed toward remedial/developmental education have seemed appropriate, it is still not possible to answer questions about the effectiveness of remedial/developmental education with any degree of consistency across institutions and across sectors, although the Illinois Community College Board staff is currently planning a study that will track a cohort of community college students who took one or more remedial/developmental courses to examine persistence, completion rates, and other success measures.

In relationship to the total share of undergraduate instruction, Illinois public colleges and universities do not do much remediation. But the percentage, even if small, is increasing. The returning student who needs one remedial/developmental course to review math or writing skills, a group that comprises at least half of those who need remediation, is not of great concern. As shown by the study at Moraine Valley Community College, many of these students do as well as students who do not need remedial work. Of greater concern are the recent high school graduates who are not only inadequately prepared for college, often in more than one basic skill area, but also lack a clear idea of what is needed to succeed in college. The May 1996 report to the Board, *Student Preparation for College*, stated that just under half of the Illinois high school seniors who planned to attend college completed the courses required for admission to public colleges and universities. And although three times more Illinois high school students completed a core college-preparatory curriculum in 1995 than did in 1986, the proportion was still lower than for other

Midwestern states and the nation as a whole. The report also cited a study by the National Action Council for Minorities in Engineering (June 1995) that found that only two in five students, and three in five parents, believed that not taking certain math classes can affect what classes the student is able to take in the future. Over half of the parents in the study believed that students could take any math class they wanted at any time.

Research has shown that older students are often more motivated to make up skills deficiencies than younger students and have a clearer understanding of what it takes to earn a college degree. Research also shows that completing a core college-preparatory curriculum in high school is positively related to success in college. The issue is not necessarily to offer less remediation, especially to older students, but to work harder on communicating standards for achievement to high school students so that they are better prepared for college. What is needed is full implementation of existing policies and more attention to assessing the effectiveness of remedial/developmental programs.

Based upon the results of national research and the 1996 survey of remedial/developmental education in Illinois public universities and community colleges, implementation strategies to increase the effectiveness of existing policies on remedial/developmental education are listed below for discussion by the higher education community.

The Board's policies expect that colleges and universities will assess student performance at appropriate intervals to improve undergraduate education.

1. At a minimum, colleges and universities should assess entering students and monitor the progress of those who need to remediate reading, writing or math skills.

2. If assessment results indicate that a student needs remedial/developmental instruction, the college should strongly recommend that the student take these courses upon entry to the college. Research reveals that completion of a developmental education program is positively related to student persistence. Research also reveals that students who take recommended remedial/developmental courses upon first entering college are more successful than those who delay or avoid taking recommending remediation.

3. Institutions should know the characteristics of students who need remedial/developmental education, including, at a minimum, age, number of remedial/developmental courses recommended and taken, and subject areas of remediation. National studies show patterns of markedly reduced persistence and success for students who need remediation in reading or who need to take three or more remedial/developmental courses. An awareness of student characteristics can inform faculty and advisors in developing appropriate academic strategies. Institutional student information systems should be designed to answer questions about the eventual success of students who need remedial/developmental education. Colleges and universities should also know the answers to questions such as these: "Are students who take recommended remedial coursework in writing more likely to complete Freshman Composition with a grade of 'C' or better than those who don't take recommended remediation?"

4. Institutions should document the need for remedial/developmental education among transfer students and provide feedback to the sending institutions. Institutions should note skills levels among students who transfer with differing amount of credits.

The Board's policies on affordability urge colleges and universities to facilitate the academic progress of students enrolled in remedial programs.

1. Students who need remedial/developmental education in two or three subject areas should focus upon a program of developmental studies before attempting college-level courses. Research reveals that students who are underprepared in math only are the most successful at improving required skills, but those who need three or more remedial/developmental courses or who need to improve basic skills in more than one subject are at considerably greater risk of not succeeding in attaining their educational goals. These students should focus on improving basic skills, especially reading and writing, before enrolling in college-level courses. As students gain proficiency in basic skills, integrated coursework that provides further instruction in college-level skills as well as introductory material in specific subjects could be offered.

2. Institutions should investigate using different approaches, methods, teaching strategies, and scheduling for remedial/developmental education for students in different age groups. Information from national databases reveals that almost half of the students who take remedial/developmental courses are five or more years beyond the traditional age of high school graduation at 18. For example, colleges and universities could consider short, "refresher workshops" for returning adults who simply need several weeks of intensive review before or during the start of the regular semester to review math fundamentals or expository writing principles.

The Board's policies call for the maintenance of a statewide system for monitoring the academic progress, retention and completion of undergraduates.

1. Statewide student information systems should be revised to answer questions about the long-term success of students who need remedial/developmental education. Answers to the questions like the following should be available: Do students who take remedial/developmental courses graduate? Do they go on to find good jobs? In the same proportions as those who do not need any remediation upon entry to college? Are their opportunities more limited; for example, do they tend to cluster in certain majors and avoid certain majors? The Illinois Community College Board currently has a system that is able to track a cohort of students who take remedial/developmental courses. The current statewide system for public universities, however, collects enrollment and credit hour information in remedial/developmental courses for university *freshmen*, but not for all students. During this past year, the Research Advisory Committee has developed a plan to revise existing student information systems to answer questions about student progress and achievement.

2. Within each of the two-year and four-year sectors, institutions should agree on units of analysis so that an evaluation of the effectiveness of remedial/developmental education is based upon common measurements. For example, credit hour information for remedial/developmental courses is collected by the majority of institutions, although it may not be a suitable choice for common measurement since the same course may carry a different number of credit hours at different institutions. The Research Advisory Committee has discussed standard measures for assessment of remedial/developmental programs and should continue to investigate the issue.

The Board's policies recommend that colleges and universities assist in improving the preparation of students by informing potential students, parents, and schools of expectations for adequate academic preparation.

1. Community colleges and universities should provide useful feedback to high schools about the preparation of their graduates for college. Information from a common statewide system can also assist in providing feedback to high schools. The staffs of the Illinois Community College Board and the Board of Higher Education should renew efforts to provide useful feedback to high schools about the progress of their graduates and review the kind of information currently provided to high schools to ensure that this information is useful. Staffs should consider providing regional workshops that involve faculty and staff from high schools, community colleges, and four-year institutions to solicit feedback on what works and what is not effective in the current system.

2. As the State Board of Education revises assessment of what students learn in high school, the higher education system should work with the State Board of Education to build college admission requirements into the new Illinois Learning Standards. The new Illinois Learning Standards adopted by the State Board of Education will provide high schools, students, and parents with specific learning goals and objectives in seven fundamental areas. The State Board of Education will begin the process of implementing these Standards this fall, which, at a minimum, will mean aligning the curriculum, teacher knowledge and skills in each school with the new Standards, identifying and responding to problems in meeting the learning targets, and communicating in new ways with students, parents, and Illinois communities. The State Board intends to publish copies of the Standards for every Illinois teacher and administrator and plans a special publication for parents. Other states, notably Oklahoma, have documented a reduction in the need for remediation due to similar measures.

3. As the State Board of Education implements the new Learning Standards, the higher education community should assist in efforts to promote early warning systems that link high schools and colleges. Ohio's Early English Composition Assessment Program is an example of an early warning program that has been successful in promoting faculty development between high school and two- and four-year college faculty to identify student writing strengths and weaknesses in relation to the standard expected of college freshman English. The program helps high school students, freshmen through seniors, to meet college writing standards, thus influencing high school students early enough in their educational careers to make a difference.

Community colleges and universities should work together to provide remedial/developmental education to Illinois students. While community colleges provide the bulk of remediation, public universities also play a key role in ensuring access to higher education through the provision of remedial/developmental education. Colleges and universities should work together to assess student characteristics and then cooperatively develop effective policies and measures of those policies to ensure that those who can benefit from higher education are afforded the opportunity to do so.

APPENDIX A

Illinois Board of Higher Education Reports on Student Preparation and Remedial/Developmental Education

Report to the General Assembly on Remedial Education. September 1977.

The Status of Special Assistance Programs in Illinois Public Universities. February 1978.

Report on the 1978-79 Survey of Adult Learners. July 1980.

Status Report on Remediation in Higher Education. June 1981.

Update on the Granting of Graduation Credit for Remediation Courses. July 1982.

Overview of the 1982 Survey of Adult Learners. April 1983.

Status Report on Remediation in Higher Education. July 1983.

Recommendations on Public College and University Admission Requirements. September 1985.

Minimum Preparation and Admission Requirements for Baccalaureate Degree Programs. November 1985.

Senate Resolution No. 121 and Board of Higher Education Response. January 1986.

Report of the Committee on the Study of Undergraduate Education. September 1986.

Academic Preparation for College: Admission Requirements for Public Colleges and Universities and Suggested Learning Outcomes for College-Bound Students. March 1988.

Fall 1993 Admission Requirements at Public Universities. July 1990.

Report of the Committee on the Study of Undergraduate Education. September 1990.

Undergraduate Education: Access and Preparation. March 1992.

Fall 1993 Admission Requirements for Public Universities and Community Colleges. November 1992.

Undergraduate Education: Access and Preparation Reexamined. March 1994.

Student Preparation for College. May 1996.

APPENDIX B

Methodology of the Survey of Remedial/Developmental Education in Illinois Public Community Colleges and Universities

During 1996, the staffs of the Illinois Community College Board and the Board of Higher Education cooperatively designed a study to assess the scope, cost, and effectiveness of remedial/developmental programs in public community colleges and universities offered during 1995-96 (Fall 1995, Winter/Spring 1996, and Summer 1996). This time period approximates that used by the Integrated Postsecondary Education Data System (IPEDS), July 1 through June 30. In addition to a survey sent to all public community colleges and universities, staffs of the two agencies used existing data from IPEDS and statewide information systems to answer questions about enrollment and credit hours devoted to remediation and direct faculty salary costs to deliver remedial/developmental classes. The survey was distributed to institutions during Winter 1997 and responses were compiled and analyzed during the Spring and Summer of 1997. Thirty-nine community colleges and all 12 public universities responded to the survey.

The study used the definition for remediation at the postsecondary level that was cited in the *Master Plan Policies for Higher Education*: "coursework that is designed to correct skills deficiencies in writing, reading, and mathematics that are essential for college study." The term "remedial" does not mean that a student, upon entry to higher education, has completed less than the recommended four years of high school English and three years of high school math, science, and social science. Rather, remedial is intended to mean "pre-collegiate" in the sense that students do not possess the necessary skills to succeed in regular collegiate-level coursework. Other terms, such as "developmental," "compensatory," "preparatory," or "basic skills," are also used by colleges and universities to indicate less-than-collegiate-level work. Information about Adult Basic Education (ABE) instruction that encompasses grade zero through eighth grade competencies, and Adult Secondary Education (ASE) that includes grades nine through twelve, are not included in this study. The Illinois Community College Board staff has designed a separate study for ABE and ASE programs and expects to report the results of this survey later this year. English as a Second Language instruction was also excluded from this survey if the instruction or services were provided primarily to foreign (F1 visa) students.

A common core of 12 questions for both community colleges and universities was developed so that responses would be comparable. The survey design allowed room, however, for each sector to add questions, such as the question asking whether universities referred students who needed remedial work to community colleges or another type of institution. Common questions are listed below:

Common Questions: Survey of Remedial/Developmental Education, Fiscal Year 1996

1) Please list all courses considered to be remedial/developmental by your institution. List the course titles and numbers, as well as the number of sections, for courses with different catalog numbers offered in Fiscal Year 1996 (Summer Term 1995, Fall Term 1995, Winter Term 1996, and Spring Term 1996).

Course Titles and Numbers	**Number of Sections Offered FY 1996**
English courses:	
Writing courses:	
ESL courses (for those students other than international [F1 visa] students)?	
Math (Please note that Intermediate Algebra is now considered remedial/developmental.)	
Integrated courses (math, reading, writing, English)	
Other *(Please specify.)*	

2) Is learning lab, where students study out of the classroom, *(please check all that apply)*
___ a required component of the remedial/developmental program?
___ an optional component?
___ available on campus?
___ available at off-campus sites?
___ does not apply

3) Please list all units on-campus or off-campus that offer remedial/developmental education or services (including classes, the learning lab, or tutoring center).

4) Are remedial/developmental courses and services offered at off-campus sites?
___Yes ___No

5) Are remedial/developmental courses offered through distance learning?
___Yes ___No *If yes, in what disciplines?*_____
_____

6) Does your institution have a policy that mandates students to remediate and prohibits them from entering a degree program if they do not meet institutional expectations for preparation?
___Yes *(Please describe below.)* ___No
___ Yes, some restrictions *(Please describe below.)*

If yes, what restrictions apply and what options are available to students who do not meet minimum requirements?

_____
_____
_____
_____
_____

7) Is assessment of basic skills mandated at your institution? ____ Yes ____ No
For which students is assessment required? *(Please check all that apply.)*

1.____ first-time, full-time students
2.____first-time, part-time students
3.____students who have acquired a specified number of hours
4.____students in declared programs
5.____students in English, math, and reading courses
6.____transfer students
7.____other *(Please specify)*_____

8) What determines whether a student enters remedial/developmental courses in your university? *(Please check all that apply.)*

1.____does not have a high school diploma
2.____college placement test
3.____other *(Please describe)*_____

9) How are students referred into remedial/developmental courses? *(Please check all that apply.)*

1.____test results
2.____advisor
3.____counselor
4.____faculty
5.____other *(Please describe)* _____

10) Does the remedial/developmental program stand alone or is it integrated into the discipline/departments of the college?

1.____stands alone
2.____integrated *If integrated, describe the extent of integration and give examples.* _____

11) What accountability measures are you using to assess the success of students who take remedial/developmental courses? *(Please check all that apply.)*

___ retention in remediation activities
___ retention between semesters
___ retention between academic years
___ advancement from remedial to college level coursework
___ completion/graduation rates
___ other *(Please specify.)* _____

12) Do you have any institutional research or departmental report, model program designs, or other campus initiative that has addressed remedial or developmental students within the last five years that you would be willing to share? Are you planning any campus initiative in the near future? If so, please include a copy of the report or a description of the design or initiative with this survey form.

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