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ABSTRACT

In 1989, a joint project was undertaken by the American Association of Community and Junior Colleges, the National Center for Academic Achievement and Transfer, the Center on Community College Education, and the Center for the Study of Community Colleges to disseminate data and research findings on the transfer of two-year college students to four-year institutions. Part I of this report on the Transfer Assembly Project contains an article, by Arthur M. Cohen, which outlines the process of deriving a valid formula for calculating transfer rates and presents the rates obtained by applying that formula to data supplied by a sample of 114 community colleges. Transfer rates were calculated by dividing the total number of students who entered the two-year college in a given year, who had no prior college experience, and who completed at least 12 college credit units into the number of that group who took one or more classes at a university within 4 years. Applying this formula, about half of the entrants with no prior college experience completed at least four courses at the two-year college, and of those, one-fourth transferred. Part II, by Jim Palmer and Joe Reish, presents findings from interviews with representatives from 49 of the colleges involved in the project, regarding the methods they used to collect the transfer data and the problems they encountered. A 43-item resource bibliography is included. (PAA)

A Model for Deriving the Transfer Rate

Report of the Transfer Assembly Project

Enid B. Jones, Editor

American Association of Community and Junior Colleges

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CONTENTS

PREFACE

A large number of students seeking the baccalaureate degree begin their postsecondary studies at two-year colleges. What happens to them next is increasingly asked by the media, policy makers, and the public; specifically, these groups want to know how many students transfer to four-year institutions. Yet there is no consistently defined methodology for calculating transfer rates. Thus, answers have been tentative, contradictory, and often confusing.

This report brings two-year colleges a step closer to filling this information gap. It is a culmination of the efforts of four educational organizations and 114 two-year colleges that used a standard definition to calculate transfer rates for first-time college students who began their studies in the fall of 1985. The definition is uncomplicated, hence the process of calculating the transfer rates requires relatively little staff time. Yet the results provide easily understood indicators that, if reported consistently year after year, will provide meaningful trend data on transfer from two-year colleges to four-year institutions.

In 1989 the U.S. Department of Education funded a project whereby the American Association of Community and Junior Colleges (AACJC) was charged to coordinate and disseminate the data and research findings on two-year college transfer that were developed by the National Center for Academic Achievement and Transfer (NCAAT) (established and funded by The Ford Foundation and sponsored by the American Council on Education), the Center on Community College Education (George Mason University), and the Center for the Study of Community Colleges (UCLA).

The data collection and research study were carried out by all the organizations included in the project. NCAAT in April 1990 undertook a national survey to identify practices used by regionally accredited, degree-granting, two-year public and private colleges to encourage student transfer to senior institutions. Institutions were asked to describe the frequency with which they employed various transfer strategies, their method of identifying transfer students, and their approach to establishing transfer rates.

The Center for Community College Education at George Mason University, Virginia, conducted interviews with participating colleges on the process involved in gathering the data and on the validity of the transfer rates that were calculated. UCLA's Center for the Study of Community Colleges concentrated on defining and calculating the transfer rate in a way that was most useful to the colleges involved and, ultimately, to all two-year colleges.

In April 1991, NCAAT convened a meeting to report on the progress of the Transfer Assembly project. The theme of the meeting—"Presidential

Leadership and the Transfer Challenge"—was designed to emphasize the need for college CEO involvement in the transfer effort. Such involvement would ensure an enduring result of the Transfer Assembly project as colleges would routinely define and collect data on transfer activities.

AACJC is pleased to publish the results of this effort and is grateful to the U.S. Department of Education for its leadership and support in this important project.

—David Pierce, President
—Enid B. Jones, Director of Research
American Association of Community and Junior Colleges

INTRODUCTION

BY ARTHUR COHEN

Professor, University of California, Los Angeles

The transfer of students to four-year colleges and universities is one of the two-year college's many educational missions. Other missions include preparing students for job entry or career upgrading, teaching literacy and general education, and satisfying students' personal interests. Each educational purpose can be clearly defined. Each can and should have data brought to bear continually so that the institution's contributions may be estimated. Measuring institutional success in one area by no means diminishes the other major missions. Each type of accomplishment deserves its own indicator.

The concept of institutional success as related to students' progress is not shared universally. Some practitioners view two-year colleges as they view parks and libraries: passive resources that are available to anyone who chooses to use them at any time. According to this perception, a two-year college has courses that anyone may take, just as a park has playing fields that anyone may use and a library has books that anyone may read. In both cases there is some vaguely held notion of general benefit to a community that enjoys access to such a resource, but the value of that resource need be measured by nothing more tangible than the number of people who play in the park, check books out of the library, or enroll in courses at the college. Institutional responsibility for specific individual progress is not a relevant measure.

This view is often applied to the two-year college mission; note, for example, the AACJC slogan, "Opportunity With Excellence." When opportunity is the goal, success is rightfully measured by tallying the number of courses provided, the breadth of offerings, the extent of all-hours access, and the variety of locations where services may be found. The ultimate measure, then, is the percentage of the community's population that participates—the overall enrollment—similar here to the number of library books circulated or the number of people enjoying the park's recreational facilities.

Efforts to estimate two-year college success in propelling students toward university entrance, jobs, promotion in career fields in which they are already engaged, literacy development, or enhanced general knowledge frequently founder on that conception of what the college actually is and does. Accordingly, information on student flow through the institution, student learning, and student progress toward individually held goals may be considered unnecessary, irrelevant, or even dangerous because it might lead to untoward comparisons with other institutions.

To the researcher or practitioner who holds a view of the college as an active player in moving students, the search for valid definitions of institutional success is a proper course to take. The contention that no definition is valid because any definition excludes some people or some parts of the mission is an unwarranted digression. Nor is the argument that the data are not available a reasonable approach; it is feasible to collect necessary data if the indicator for any of the missions is stated simply and elegantly. The question of why any practitioner would want to know how well the institution is doing in any of the areas can be answered by pointing out that a group practicing its profession needs to know how well it is doing. The quest for excellence rests on evidence of specific results. As for the risk that data on student progress may lead outsiders to draw unwarranted inferences, the evidence of many years suggests that it is more dangerous to let legislative aides, the media, and others outside the profession generate their own data and definitions and impose them on the institutions. The college that provides no news sets itself up for bad news.

This monograph describes the Transfer Assembly, an ongoing national effort to validate a way of calculating transfer rates and to assist colleges in gathering data on their students' transfer patterns. The Assembly's purpose is to encourage colleges to collect data on student flow in a consistent manner so they can estimate the effects of their interventions on behalf of this basic institutional function and respond readily to questions of student progress. Part I of the monograph outlines the process of deriving a valid formula for calculating transfer rates and displays the rates obtained by applying that formula to data supplied by a sample of American community colleges. Part II describes the time spent and the difficulties encountered by the colleges that participated in the Transfer Assembly project.

PART I

Deriving a Valid Transfer Rate

BY ARTHUR COHEN

Professor, University of California-Los Angeles

How well are two-year colleges assisting students toward the baccalaureate? To answer that question a valid indicator of transfer rates must be generated. But few colleges collect data routinely on their transferring students. Transfer rates have been reported from time to time, but the data are inconsistent and the definitions vary. Two-year colleges typically receive funding based on the number of students who take classes, not on the number who complete programs or go on to further education; hence there are few incentives to organize systems to produce the data.

Is a high school graduate who takes a summer class at a community college before entering a university in the fall a transfer? Is a university student who takes classes at a local community college a transfer? How many units must a two-year college student complete before matriculating at a university to be called a transfer? How should we count those students who stop out of the education system for a few years? If four-year colleges and universities accepted as transfers only those students who had completed associate degree requirements, the definitional question would be at least partially resolved. But the issue of what to use as the denominator in calculating a transfer rate would remain open.

The various definitions give rise to incredibly diverse conclusions. Flaherty (1989) reported a transfer rate of less than 12 percent for Illinois community colleges at the same time that the Chancellor's Office of the California Community Colleges (1989) found a transfer rate exceeding 42 percent for the California colleges. Are the two systems that disparate? Of course not. Each reporter used a different mode of calculation. Flaherty divided the number of students transferring to an Illinois four-year college or university in 1988 by *the total enrollment in "pre-baccalaureate programs" during the previous fall*. The California study divided the number trans-

ferring in 1988–89 by the *"number of California high school graduates who entered community colleges three years prior to transfer"* (p. 12).

Other ways of estimating transfer rates have been made. Berman and others (1989) surveyed students who had been enrolled in 28 colleges in the spring 1988 term but who had not returned in the fall; they found that 26 percent of those who had taken six or more credits at the community college had matriculated at a four-year college or university. The Washington State Board for Community Colleges (1989) surveyed a sample of bachelor's degree recipients and found that 48 percent had transferred credits from a Washington community college. The Office of Research of the U.S. Department of Education analyzed the transcripts of the students who participated in the National Longitudinal Study of the High School Class of 1972 and estimated that 20 percent of those receiving bachelor's degrees had attended a community college at some time (Adelman, 1988). Palmer (1986) listed several other single-college and statewide studies that had similarly variant definitions and databases, hence widely different rates of transfer. After reviewing the ERIC files, Cohen (1990) found studies yielding transfer rates that ranged from 5 to 84 percent; the lowest rates were in studies where the number of transfers was divided by the total college enrollment; the highest, where the transfers were divided by the number of students who entered the colleges with intentions of transferring and who received associate degrees.

The studies mentioned above reveal various flaws in the way that transfer rates are calculated across the nation. In the transfer equations, there is no common denominator or set of students being tracked. There is no common numerator or subset of the original group being tallied over a specific time period. The Flaherty and California Chancellor's Office studies used cross-sectional measures of gross enrollment figures instead of the student cohort tracking. Berman and others surveyed the students who failed to return to the community colleges after a given time, without accounting for when those students entered the colleges originally or for the fact that the same student might be a "leaver" many times over. The Washington baccalaureate retrospective did not yield a transfer-rate measure. The U.S. Department of Education study provided a one-time review of one cohort, useful in the aggregate but not for individual college planning.

GUIDELINES FOR AN INDICATOR

In order to derive a transfer rate, the number of students enrolled at the college, subdivided according to certain criteria, must be divided into the number who matriculate at the senior institutions. Some cohort or group of two-year college students must be defined and divided into the

number of that group who subsequently attend a four-year college or university. This yields a percentage, a transfer rate. But the question of which students to include in the cohort must be answered first.

Can an acceptable indicator of transfer rates be developed? That seems a plausible task if certain guidelines are attended to. The definition should not use as its denominator all college entrants, because that figure includes students who have already attended other institutions. It should not include only those students intending to transfer, because data on student intentions are unreliable. It should not include only the student just out of high school, because many students delay entry to higher education for a few years and return to the community college when they are older. It should not be based on students who take only academic courses, because occupational education contributes many transfers. It should not include only full-time students, because part-time students account for two-thirds of enrollment and many of the transfers. It should not include associate degree recipients only because many students transfer without obtaining a degree from the two-year college. Likewise, it should not include sophomores only, because many students transfer before obtaining as many as 30 units at the two-year college.

What should the definition include? The denominator should include only those students who complete some minimum number of college credit units at the two-year college and who have been enrolled long enough for the college staff to have had a chance to work with them. It should allow at least a four-year span between community college entrance and transfer in order to accommodate the educational careers of part-time students. And it should be based on data that can be feasibly compiled at the college because if the transfer rate is to have any meaning for the college staff, they must be able to combine their own student records with the information they obtain from the receiving institutions.

Using those imperatives, the transfer rate can be defined as *all students entering the two-year college in a given year who have no prior college experience and who complete at least 12 college credit units, divided into the number of that group who take one or more classes at a university within four years*. (Setting up the cohort to be tracked in this fashion allows for subsequent calculations using those who transfer five, six, or more years after entry, but the four-year cut provides a consistent measure).

THE TRANSFER ASSEMBLY

At the beginning of 1989, the Los Angeles-based Center for the Study of Community Colleges received a grant from The Ford Foundation to assist the nation's two-year colleges in defining their transfer rates and obtaining

data to support those definitions. For many years the Foundation had been interested in promoting the progress of minority students through the nation's schools and on toward the baccalaureate and higher degrees. Community, technical, and junior colleges are a link in that stream of graded education and are particularly important for minorities because sizable proportions of those underrepresented students begin their higher education careers in two-year colleges.

The Center staff invited 240 colleges, around one-fifth of the nation's two-year colleges, to participate in the Assembly. Colleges with at least 20 percent minority enrollment made up the invitation list. Those colleges where the president expressed interest were asked to supply three data elements: 1) the number of their students, disaggregated by ethnicity, who had entered the college in fall 1984 with no prior college experience; 2) of those, the number who had stayed at the institution long enough to attain at least 12 college credit units; and 3) the number of that group who, within four years of initial enrollment, had entered a senior institution. Forty-eight of the invited institutions were able to provide the data.

The colleges found few problems in supplying the first two data elements—the number of students who had entered and those who stayed long enough to attain 12 units; that information was available from college records. The problems came in finding the transfers. The Center staff assisted the institutions in obtaining the transfer data by suggesting ways for the colleges to get them from neighboring universities, helped the institutions to match their records with university or state data files, and in general, showed how a measure of diligence could lead to success in obtaining the data. Much of the Center staff's time was spent in convincing college presidents, data compilers, and institutional researchers that the task was feasible and worth doing.

In 1990 the 240 colleges were again asked to supply the data, this time on their 1985 entrants (see Response Form). One hundred fourteen colleges in 27 states participated. The Center staff communicated via mail and telephone with the college staff compiling the data, helping them to reach the necessary officials at the universities and state offices where data on university students were held. California community colleges sent disks with the requisite information about entrants who obtained 12 units, whereupon the Center staff contracted with the Division of Analytic Studies of the California State University System to match those data with its own records. The Center staff obtained a tape from the University of California and ran the match in the Center office. The Texas and Illinois colleges provided the data in a similar fashion. In Texas the Research and Planning, Community Affairs, and Technical Division of the Higher Education Coordinating Board matched disks sent by the Texas colleges with its own data on students en

Ford Foundation/Center for the Study of Community Colleges
1991 Transfer Assembly Response Form

	Black	*Hispanic*	*American Indian*	*White*	*Asian*	*Other*	*Total*
Number of students entering your college in fall 1985 with no prior college experience	____	____	____	____	____	____	____
Number of the fall 1985 entrants with no prior college experience who completed 12 or more semester credits by spring 1989	____	____	____	____	____	____	____
Number of the fall 1985 entrants with no prior college experience who completed 12 or more semester credits* and who transferred to senior institutions by fall 1989	____	____	____	____	____	____	____

*Quarter credits must be transformed to semester credits

Student transfer data were obtained by (circle one): student surveys senior institutions

state agency other

Your name: _____

College: _____ State: _____

Telephone: _____ Fax: _____

tering Texas public institutions. The Illinois Community College Board, in cooperation with the Illinois Board of Higher Education, ran similar matches. Those three states accounted for around half of the colleges that eventually participated.

THE TRANSFER RATES

The colleges that participated in the first two rounds of the Transfer Assembly provided the following data:

Entrants with No Prior College Experience

1984 (48 colleges)	N = 77,903
1985 (114 colleges)	N = 191,748

Entrants who Received 12+ Credits Within Four Years

1984	39,351 (50.5% of the entrants)
1985	89,638 (46.7% of the entrants)

Transfers Within Four Years

1984	9,316 (23.7% of those receiving 12+ credits)
1985	21,171 (23.6% of those receiving 12+ credits)

In summary, around half the entrants with no prior college experience completed at least 12 semester units (four courses) at the college, and of those, around one-fourth transferred.

The individual-college transfer rates, displayed below, varied from 2 to 78 percent. But the low extremes relate to the small number of transferring students in colleges whose emphasis is almost entirely on short-term occupational programs. The mean rate of 23.6 percent of the students entering in 1985 who completed 12 or more credits and transferred within four years best illustrates the colleges' contributions to student progress toward the baccalaureate.

The following tables display the individual college transfer rates with the colleges arranged in quartiles by number of entering students. Within each quartile, the colleges are ranked by transfer rate. Thus, the transfer rates for the largest colleges range from 45.4 percent to 4.6 percent, and for the smallest colleges from 77.8 percent to 4.1 percent.

COLLEGES WITH THE LARGEST NUMBER OF ENTRANTS

A *Number of Entrants*	B *Number of Entrants who Obtained 12+ Units*	C *Number of Transfers*	D *Percentage (C/B)*
3626	1995	905	45.4%
7750	5136	1959	38.1%
6752	2859	996	34.8%
3188	1476	506	34.3%
4221	2755	927	33.6%
3379	1507	488	32.4%
2757	574	185	32.2%
6347	1356	417	30.8%
2874	1033	272	26.3%
3915	977	244	25.0%
4030	2422	601	24.8%
3605	1836	446	24.3%
3106	640	149	23.3%
2652	426	93	21.8%
6954	2519	545	21.6%
4533	1459	309	21.2%
3771	1886	391	20.7%
2873	1922	384	20.0%
4771	2528	504	19.9%
2908	1987	377	19.0%
2610	1920	350	18.2%
3013	1212	195	16.1%
2932	1264	201	15.9%
5784	2099	328	15.6%
2713	2550	327	12.8%
2946	1823	203	11.1%
3507	2461	112	4.6%

COLLEGES WITH THE SECOND LARGEST NUMBER OF ENTRANTS

A *Number of Entrants*	B *Number of Entrants who Obtained 12+ Units*	C *Number of Transfers*	D *Percentage (C/B)*
1228	960	728	75.8%
1736	916	300	32.8%
1759	695	218	31.4%
2538	860	262	30.5%
1392	543	154	28.4%
2244	735	178	24.2%
2514	789	186	23.6%
2033	860	197	22.9%
1483	816	183	22.4%
2393	880	194	22.0%
1902	836	181	21.7%
1177	459	99	21.6%
2263	967	207	21.4%
1726	535	114	21.3%
2332	1084	227	20.9%
1282	522	109	20.9%
1147	542	98	18.1%
1359	673	121	18.0%
2180	889	148	16.6%
2204	882	137	15.5%
1596	490	76	15.5%
1908	872	114	13.1%
2163	697	80	11.5%
1731	612	56	9.2%
1478	970	78	8.0%
1189	622	48	7.7%
1303	631	45	7.1%
1580	697	30	4.3%

COLLEGES WITH THE THIRD LARGEST NUMBER OF ENTRANTS

A *Number of Entrants*	B *Number of Entrants who Obtained 12+ Units*	C *Number of Transfers*	D *Percentage (C/B)*
994	418	231	55.3%
786	534	193	36.1%
600	526	189	35.9%
966	580	198	34.1%
1001	602	197	32.7%
939	599	188	31.4%
860	713	210	29.5%
674	237	68	28.7%
672	374	103	27.5%
688	202	53	26.2%
885	794	201	25.3%
934	597	129	21.6%
649	371	79	21.3%
1122	396	69	17.4%
576	167	27	16.2%
1035	659	103	15.6%
639	477	72	15.1%
628	285	43	15.1%
949	365	53	14.5%
741	172	21	12.2%
834	330	35	10.6%
572	387	41	10.6%
958	105	11	10.5%
1115	731	67	9.2%
978	571	40	7.0%
1055	561	29	5.2%
700	158	4	2.5%
694	255	6	2.4%

COLLEGES WITH THE SMALLEST NUMBER OF ENTRANTS

A *Number of Entrants*	B *Number of Entrants who Obtained 12+ Units*	C *Number of Transfers*	D *Percentage (C/B)*
319	9	7	77.8%
31	26	17	65.4%
462	203	123	60.6%
83	71	39	54.9%
299	242	128	52.9%
115	73	38	52.1%
403	346	161	46.5%
207	69	32	46.4%
360	153	51	33.3%
160	84	28	33.3%
461	454	141	31.1%
500	224	57	25.4%
316	312	79	25.3%
171	107	27	25.2%
269	263	57	21.7%
292	283	55	19.4%
509	159	28	17.6%
134	43	7	16.3%
439	336	53	15.8%
164	109	15	13.8%
323	197	25	12.7%
165	121	15	12.4%
347	102	12	11.8%
135	52	6	11.5%
88	37	4	10.8%
271	236	15	6.4%
97	17	1	5.9%
496	145	6	4.1%

LIMITATIONS AND BENEFITS

There are several limitations to using a definition of a transfer rate that can be computed without great research effort and that is readily understandable. For one, it leads to an undercount of the number of students transferring. Some students who transfer may not be picked up in cases where a two-year college seeks information only from its major receiving institutions and neglects those outlying universities where only a few of the students go. Using a statewide database may also miss the students who transfer to private institutions.

The transfer rate calculation does not yield information useful in making comparisons between colleges. Much additional data must be gathered before one college can be said to have done a better job than another in effecting student transfer (Palmer, 1991). Community demographics play a part, as do the strength and emphasis of the college's other programs. Nothing can be done about the people who insist on making interinstitutional comparisons except to say that the comparisons are not valid.

Similarly, comparisons between states cannot be reasonably made. State system policies differ greatly. Where the two-year colleges are seen as feeders to the state's public universities, transfer rates will be high, but where the universities tend to go it alone, another pattern results. The University of California and the California State University systems demand that unless students were eligible for university entrance as freshmen, they must attain at least 56 transferable credits before they will be considered for junior-level entry. In Texas, transfers may be considered at any time. Florida demands that all students pass the College Level Academic Skills Test before entering the university junior year. State policies direct the community colleges in North Carolina primarily toward short-cycle occupational studies. These differences can affect transfer rates markedly.

The transfer rate indicator is most useful for the individual colleges and for the analysts seeking estimates of the colleges' contributions to student progress. When an institution has its own database and does its own calculations, its spokespersons can say, "This is what we contribute to student progress." They do not have to depend on outsiders to define their mission or the success of their mission. The public relations value of such a capacity is enormous. The college's own calculations allow it to take the lead in periodically publicizing its success in each of its major missions. Any outsiders who choose to estimate institutional outcomes differently do so reactively. There is a great difference in public image when the external reporters are forced to confront sound institutional data instead of generating figures first and forcing the college spokespersons to react.

A college is also in a better position to provide information that is use-

ful for program planning when it collects its own data. The college information system begins with the premise that the data can be used to reflect and lead program modifications; the *New Directions for Community Colleges* volume on "Models for Institutional Research," (MacDougall and Friedlander, 1991) and the League for Innovation in the Community College monograph, *Assessing Institutional Effectiveness in Community Colleges* (Doucette and Hughes, 1990) offer numerous examples.

As to the definition of the transfer rate itself, all calculations must begin with some group of students. Some public university systems have tracked the students receiving baccalaureate degrees in a given year, checking transcripts to see how many include credits toward the baccalaureate from the state's two-year colleges. State-level studies have also centered on the junior class in universities, checking the number who were transferring credits from the state's two-year colleges. Researchers have also used the National Longitudinal Study of the High School Class of 1972 to calculate the number of students who went through two-year colleges on their way to the baccalaureate over a period of 12 years and with data that allow tracking across state lines. Other projects have used the number of students exiting the two-year college in a given year and entering a four-year college or university in the same year.

Which of these modes of calculation is most useful? The question, of course, is, Useful for what? For making a representation to a legislative committee that is concerned with the two-year colleges' contribution to bachelor's degree attainment in that state, the cohort of bachelor's degree recipients is probably most helpful. Legislators know what a baccalaureate degree is, and they may be convinced that the two-year colleges are helping students toward the baccalaureate if the data on the number of bachelor's degree recipients who have two-year college credits in their transcript are made available.

But from the two-year college perspective, for the purpose of assisting decisions about deploying resources in a single institution, the cohort of students who enter in a given year and transfer within four years is considerably more useful. Here the college can estimate the effects of various programmatic efforts such as changes in course prerequisites, new counseling initiatives, the organization of a transfer center, or a new articulation agreement with a neighboring university. These activities happen during certain years. Knowing the transfer rate for the students who enrolled in the years just prior to those events makes it possible to consider the effects of these initiatives.

In sum, all transfer rate calculations must use some cohort, and the best practice uses the cohort that is most useful to the institution. Bachelor's degree recipients or two-year college leavers could have entered and par-

ticipated in the two-year college at any time over a period of years. Starting with a cohort entering in a given year makes it feasible to relate the transfer data to things that were happening in and around the college in a finite span of years.

The Transfer Assembly's definition is valid also because the institution uses as a measure in its calculations only the students who stayed at the institution long enough to complete at least four college credit classes. The community colleges enroll sizable numbers of people who are merely dropping by to take a class on their way to matriculating in some other institution, who already have degrees and who want to take only a course or two for their own edification, or who matriculate but drop out for reasons beyond college control; in short, those who have hardly been touched by the institution. This pattern of occasional enrollment makes for an interesting analysis if the intention is to estimate the college's contribution to the general education level of its entire district. But to estimate the college's contribution to baccalaureate degree attainment, a minimum number of units that each student has taken must be established.

For general institutional analysis at the national level, all the colleges should calculate their transfer rates in similar fashion. That is where an elegant definition becomes practical. Neither the internal college community nor its external constituency has the patience to consider institutional outcomes that are excessively complex or peculiar to single colleges. When similar definitions are used across institutions, their validity is more likely to be sustained. If a sizable number of colleges are using a definition of transfer rate that is calculated by dividing the number transferring within four years by the number who entered with no prior college experience and received 12 units at the institution, the single-college leader who proclaims a superior transfer rate based on a different definition, such as the number of full-time students who intended to transfer and who received associate degrees at the college, is revealed as having made a seriously misleading statement.

THE ETHNIC PATTERNS

The Transfer Assembly's intentions were to promulgate a valid definition of transfer rates and to assist community, technical, and junior colleges in collecting the data needed to calculate their own transfer rates. As a corollary of the effort some interesting differences appeared in the rate of transfer among ethnic groups.

One hundred of the 114 colleges participating in the 1991 Transfer Assembly supplied their data on student transfer disaggregated according to African-American, White, and Hispanic categories. The differences among

the groups were large: of the students receiving 12 or more credits, 19.6 percent of the African Americans, 18.2 percent of the Hispanics, and 27 percent of the Whites transferred within four years. This is in line with expectations because many prior studies have portrayed these types of differences in student progress toward the baccalaureate.

But the differences were greater for the sample as a whole than they were for the students within each college. For example, one college had a transfer rate of 13.6 percent for its African-American students, 15 percent for its Hispanics, and 17.1 percent for Whites. Another college's transfer rates were 12.7 percent for its African-American students, 11.3 percent for its Hispanics, and 13.8 percent for Whites. A third had a rate of 18.3 percent for its African Americans, 18.5 percent for its Hispanics, and 19.6 percent for Whites. And in a fourth college, the transfer rates were 20 percent for the African-American students, 19.9 percent for the Hispanics, and 19.8 percent for Whites. Overall, in 39 colleges, the transfer rate differential between African-American and White students at the individual institution was narrower than the transfer rate differential for all colleges in the sample as a whole; in 52 colleges the individual differential was greater than the figure for all colleges. However, in 47 colleges, the transfer rate differential between Hispanics and Whites at the individual colleges was narrower than the differential for all colleges and in only 18 colleges was it greater. In 14 colleges, the percentage of transfer was higher for Hispanics than for Whites.

In sum, the aggregate data make it appear as though the colleges were passing the ethnic groups through at differing rates. However, this effect is caused by variations among the colleges. A college with an overall high or low transfer rate typically has a similar transfer rate for all its students, regardless of ethnicity. Students of any ethnic category tend to go through any single college at the same rate. The factors influencing transfer rates—articulation agreements, 2 + 2 programs, transfer centers, the proximity of neighboring universities—have a similar effect on students of any ethnicity.

The difference in transfer rates among African-American and White students is at least in part an effect of de facto segregated institutions. For example, the transfer rate in most of the predominantly Black colleges was lower than the overall African-American student transfer rate. The difference in the rate for Hispanic students is in part related to their staying longer in the two-year colleges before transferring. Thus those Hispanic students who do transfer have a greater chance of missing the four-year cut-off date for data calculation.

These types of analyses illustrate what researchers can do when a consistent definition is applied across colleges nationally. But the main effect of the project has been to posit and promulgate a stable transfer rate definition

and to encourage the colleges to provide the data on their own students. No other approach to data and definitions on student transfer could have had a similar effect. The capacity and tendency for local colleges to routinely calculate transfer rates may be the project's most enduring outcome.

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PART II

The Process: Gathering Data for Transfer

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The Transfer Assembly project is more than an attempt to determine the proportion of two-year college students nationally who transfer to baccalaureate-granting institutions. It is an effort to increase the institutional capacity to calculate transfer rates according to a consistent definition. While the transfer rates reported by the 114 colleges participating in the 1990–91 round of the Transfer Assembly project are informative and illustrate the variation between individual two-year colleges in the extent of transfer activity, the more important issue is whether the process employed in the project provides colleges with a valid and manageable methodology for gauging the ebb and flow of transfer over time.

In an attempt to examine this process, the Center for Community College Education at George Mason University conducted interviews with staff at 25 of the 114 colleges that provided transfer rate data during 1990–91 ("Group A" colleges), as well as with staff at 14 of 30 additional colleges that had agreed to participate but did not provide transfer rate data ("Group B" colleges). Each of the colleges represented in the interviews was selected at random, and each person interviewed had served as his or her college's coordinator for the project, collecting requisite data and reporting transfer rates to the Center.

The interviews were conducted in April 1991 and solicited information needed to answer several questions:

- What procedures were used by the participating colleges to gather the requisite data?
- Who was involved in gathering the data? What burdens did the

methodology place on the institution in terms of staff time?

- What problems arose during the process of gathering the data? What factors held back or contributed to successful completion of the data-gathering task?
- What reservations—if any—do college staff have about the usefulness of the transfer rate data collected? What reasons did colleges have for not providing transfer rate data?

Findings, reported below, indicate that in comparison to follow-up surveys (the predominant method used by two-year colleges to assess the transfer activity of former students), the methodology employed by the Transfer Assembly provides a relatively easy means of determining the proportion of students who go on to baccalaureate-granting institutions.

PROCEDURES

The two-year colleges participating in the Transfer Assembly project were asked to complete three tasks: (1) to identify the cohort of first-time college students who enrolled at the colleges in the fall of 1985; (2) to identify the subgroup within the cohort that earned at least 12 college-level credits at the colleges by the spring of 1989; and (3) to secure the cooperation of four-year colleges in identifying those students within the subgroup who had transferred by the fall of 1989. Among the colleges that were successful in calculating transfer rates, variations emerged in the ways these tasks were carried out.

Use of State or System Offices. While 15 of the 25 Group A colleges worked independently in gathering data and calculating transfer rates, 10 worked in tandem with either state higher education agencies or the central offices of multi-college systems (such as the City University of New York and the California State University System). Four of these 10 colleges relied solely on the centralized data banks of state agencies, which were queried by state personnel to identify the cohort of entering students, determine which students within the cohort earned the minimum 12 units within four years, and match this subgroup against the student rosters of public four-year colleges within the state. The remaining six colleges shared the tasks with state or system offices; these colleges identified the cohort making up the numerator of the transfer rate equation but relied on the state agency or system office to determine the proportion of students within the cohort that had transferred to four-year colleges or universities.

The assistance of state agencies, when available, reduced the burden on individual colleges considerably. Yet research personnel at the colleges sometimes felt powerless to alter the specifics of the state or system's data base; as a result, some felt that they were settling for less than optimal in-

formation. One respondent, for example, noted that the database maintained by the state office included information on public institutions only, thereby precluding analysis of transfers to private colleges. Thus, state or system offices were not always able to provide all the information desired by the two-year college, which was forced to either accept the state/system data as a compromise or work independently with four-year colleges.

Selecting the Four-Year Colleges. A key decision the participating two-year colleges faced was the determination of which four-year colleges to approach for information on the transfer status of former students. Realizing that it would be impractical to include all four-year colleges to which students transfer, each college attempted to identify the group of baccalaureate-granting institutions that received a majority of its transferring students. Ten two-year colleges working with state agencies or system offices simply used the public four-year colleges within the respective state or university system. The remaining 15 colleges that worked independently of state or system offices used several approaches:

- Seven used an anecdotal approach, using four-year colleges that, according to common knowledge, received the majority of transfers from the two-year college.
- Five analyzed transcript requests from former students and selected the four-year colleges to which the majority of the transcripts were directed.
- Two relied on follow-up surveys of graduates, selecting those four-year colleges most frequently mentioned as receiving transfer institutions.
- Finally, one community college simply made a blanket request of all four-year colleges, public and private, within the state. Of the 21 four-year colleges approached, 19 agreed to provide the community college with information on former students.

The number of four-year colleges approached by each of these 15 two-year colleges ranged from 2 to 21; most (68 percent) were public institutions.

Regardless of whether the two-year colleges in Group A were working independently or with state or system offices, most of the respondents were satisfied that they had contacted the four-year colleges that receive most of their transfer students. When asked, "Were there other four-year colleges that you would have liked to approach for information on former students, but for some reason did not?", 22 of the interviewed college representatives said, "No."

Use of Computer Technology. Most of the Group A colleges had computerized student information systems, hence work on the project was largely, though not always, a data-processing task. Of the 21 colleges that

did not rely on state agencies to identify the cohort of students upon which the transfer rate was to be based, 18 relied on their computerized systems to do so, writing special programs as needed. Only three colleges searched student records manually. When approaching four-year colleges or state/system offices for information on former students, 13 colleges provided the four-year colleges or state/system offices with data tapes, which were matched with the computerized records of those enrolled at senior institutions. In eight cases, however, the two-year colleges provided the four-year colleges or state/system offices with a paper list of students. In the final analysis, computerized sorting and matching of records was used when feasible, but automation was not a requisite to success.

Staff Time. Besides state or system office personnel, those directly involved in the project were almost evenly divided between institutional researchers on the one hand and admissions officers, registrars, or student records personnel on the other. In addition, most of the respondents from the 25 Group A colleges indicated that they were assisted by data processing or other clerical personnel within the college. Hence the burdens imposed by the project fell on the shoulders of those who were responsible for or who had access to the college's student information system. In some cases all tasks were carried out by one person; in other cases the college staff member responsible for the project delegated tasks to data processing and other support personnel.

The respondents' estimates of time they themselves spent on the project indicate that it imposed a minimal burden on staff. Four noted that the time they spent on the project was negligible, because the state higher education agency provided all the requisite data. Of the remaining respondents, 12 replied that they spent less than two working days on the project, while seven indicated that they spent more than two days but less than one week. Only two respondents, from colleges without computerized student information systems, devoted one week or more to the data collection effort. When asked about the amount of time other college personnel, such as data processing or clerical staff, devoted to the project, 14 of the respondents indicated two days or less, while the remainder said three days or more.

What were the most time-consuming tasks? Responses to this question reveal that the process of gathering the data internally posed little difficulty. Only six of the Group A colleges, including two without computerized student records, cited the task of identifying the transfer cohort as the most time-consuming part of the project. Fifteen colleges, however, indicated that the most time-consuming aspect of the project involved making initial contacts with counterparts at four-year colleges and making follow-up calls to those counterparts when data on the transfer status of former students were not immediately forthcoming. In most cases, then, burdens on staff at

two-year colleges derived from the fact that lines of communication between data collection staff at two-year and four-year colleges had to be established.

The time burden imposed by the project on four-year college staff was not determined in this study. But the need for repeated follow-up calls from two-year to four-year colleges suggests that some four-year institutions may have encountered delays in matching student files from two-year colleges with their own records. The extent to which these delays were caused by technical problems, by the competing demands of other, more pressing tasks faced by four-year college personnel, or by institutional indifference to the data needs of two-year colleges remains unknown.

PROBLEMS ENCOUNTERED

Respondents from Group A noted that few or no problems were encountered in gathering the requisite data from their own colleges. More difficulties were reported, albeit by a minority of respondents, in collecting information from four-year colleges on the transfer status of students in the cohort. Six of the 25 Group A colleges noted that at least one four-year college had refused their requests for information on former students. Grounds for refusal included limited staff time, incompatibility of computer hardware or software, and the fear that the confidentiality of student records would be compromised. In addition, some four-year colleges did not follow through with promised data. Interviewees from three colleges reported that they did not receive all requisite data from four-year institutions that had agreed to participate.

In securing the cooperation of baccalaureate-granting institutions, much depended on the development of one-to-one working relationships between two-year and four-year college staff. This was underscored by the survey respondents themselves when they were asked, "What factors contributed to good working relationships between you and the four-year colleges that you worked with?" Of the respondents at the 15 colleges that worked independently of state agencies, 13 indicated that establishing a personal rapport with counterparts at four-year institutions was the key factor to success. Thus, problems were usually overcome when the project was undertaken as a collegial effort between professionals rather than as an interinstitutional effort between colleges.

WHY DID SOME COLLEGES NOT PROVIDE TRANSFER RATE DATA?

Additional insights into potential problems are provided by the 14 interviewees from colleges in Group B that agreed to participate in the Trans-

fer Assembly project but did not provide transfer rate data. Most of the reasons cited for not reporting the data were technical or managerial in nature. Seven colleges indicated that computer problems were to blame; often these problems were tied to a change in computer systems, which made it difficult to match student records from 1985 with student records from 1989. Limited staff time was cited almost as frequently, perhaps indicating that the data collection tasks of the Transfer Assembly, viewed as an outside research project, took a back seat to the colleges' day-to-day administrative routine.

But in some cases, colleges did not report data despite the availability of staff and computer resources. Three colleges indicated that lack of cooperation from four-year colleges contributed to the failure to report transfer rate data. Political and philosophical issues also came into play. Two colleges indicated that they feared the transfer rate data would be misused to rank order colleges in terms of their effectiveness as providers of transfer education. Another college stopped work on the project because of the president's disagreement with the validity of the transfer rate definition used by the Transfer Assembly. Echoing this concern, another respondent expressed the fear that reporting transfer rate data would diminish the importance of other two-year college functions such as vocational education.

Political and philosophical concerns were expressed by only a minority of respondents. But these concerns clearly indicate that institutional capacity to report transfer rate data depends as much on leadership commitment as it does on data-processing skills. Two-year college leaders must be convinced of the validity of the transfer rate and overcome the fear that publicly available transfer rate data are a political threat. Leaders at receiving four-year colleges need to emphasize the importance of helping two-year colleges gather transfer rate data.

PERCEIVED BENEFITS

Despite occasional problems encountered in gathering the data required to calculate transfer rates according to the definition employed in the Transfer Assembly project, the interviews provided evidence that most colleges felt the effort worthwhile. For example, 23 of the 25 interviewees from the colleges in Group A indicated that they would recommend continued participation in the Transfer Assembly project during 1991–92 and that future work on the project would be easier because the initial groundwork of making contacts with four-year colleges and writing computer programs to identify student cohorts had been completed. Even those interviewees from the 14 colleges in Group B that were not able to supply transfer rate data in 1990–91 generally indicated that their colleges would participate in

future rounds of the Transfer Assembly project. Ten indicated that their colleges would participate in 1991–92 if asked, two were not sure, and only the remaining two replied with a definite, "No."

Besides expressing a willingness to continue work with the project, the interviewees also felt that the transfer rate data generated in the project were useful to their colleges. Of the 25 colleges that successfully reported transfer rates during the 1990–91 round of the project, 10 indicated that the data had already been put to use in their institutions' outcomes assessment programs, and another eight anticipated that the data would be put to use in the future. One community college had used the data as leverage in convincing a neighboring four-year college to enter into negotiations for an articulation agreement.

A third indicator of general—though qualified—satisfaction lies in the respondents' views of the usefulness of the data collection methodology employed in the project as an alternative to the more common method of conducting follow-up surveys of former students. When asked to compare the results of the surveys with the results of the Transfer Assembly project, the interviewees responded that there was a trade-off between richness of detail and accuracy of information. Follow-up surveys, the interviewees noted, do more than help calculate the transfer rate; they have the potential to provide additional information on the characteristics and educational experiences of students who transfer. On the other hand, the interviewees had more faith in the validity of the transfer rates generated by the Transfer Assembly, largely because the response rates to follow-up surveys are usually low, ranging at the nine colleges from 20 to 60 percent, with an average of 40 percent. The interviewees also noted that the Transfer Assembly project took less time to complete than follow-up surveys. Thus, there was agreement among these nine interviewees that the data collection methodology employed in the Transfer Assembly project provides, with less staff time, a more accurate transfer rate indicator than follow-up surveys. Though this was qualified by the desire for more information than a simple transfer rate can provide, the interviewees felt that the transfer rates generated by the Transfer Assembly method, unlike those derived from follow-up surveys, were at least valid for a known group of students going to a known group of receiving four-year colleges within a pre-established time frame.

SUMMARY

As demands for data on student outcomes grow, community, technical, and junior colleges will be faced with the task of calculating and reporting student transfer rates. The Transfer Assembly project offers colleges one

way of approaching this task: identifying students with no prior college experience who enter the two-year college at any one time, determining which of these students earns at least 12 units from the college within four years of entrance, and asking a predetermined group of receiving four-year colleges if any of these students had subsequently enrolled at their institutions. The interviews conducted in this study shed light on the processes involved in gathering the data, on the factors that contribute to successful completion of the data collection task, and on the validity of the transfer rates themselves.

The processes involved in gathering data necessary to calculate the transfer rate varied from college to college. Many two-year colleges were able to depend on state agencies or the central offices of university systems for the requisite data. When colleges worked independently of state or system offices, some relied on computerized student information systems to identify the student cohort upon which the transfer rate was to be based; others had to search files manually. Those colleges that relied on state or system offices reduced the amount of effort their staff had to invest in the project. On the other hand, those colleges that worked independently had total control over the process, including the determination of which four-year colleges would be approached for information on the status of former students.

What contributed to success in carrying out the project? Technical skills were useful. They include, for example, the ability to write a computer program that will tag the records of students meeting the requirements for inclusion in the base cohort. But the desired end is a simple transfer rate, not a complicated analysis of the characteristics of students who transfer and of the factors that contribute to transfer success. Furthermore, the data required by the Transfer Assembly colleges to calculate transfer rates are available in institutional student records; colleges need not add surveys or other studies to their institutional research agendas. Thus, acquisition and use of these data depend less on computer skills or research expertise than they do on leadership commitment to making use of these data and on the development of collegial ties between those responsible for data collection at two-year and four-year institutions. The key question is not, *Can* the transfer rates be calculated? Rather, it is, *Will* the transfer rates be calculated? The interviews conducted in this study suggest that once leaders commit themselves to the project, transfer rates and the interinstitutional ties needed for their calculation follow.

Future adoption of the Transfer Assembly methodology will depend on the perceived validity of the transfer rate data generated by the project. Are the data accurate and hence valid measures of the proportion of two-year college students who transfer? The interviews did not address this issue di-

rectly. No colleges were asked, for example, about estimates of the extent to which the transfer rates emerging during the project underestimate actual transfer activity. Yet the 25 colleges that successfully provided transfer rate data at least have an accurate indicator of transfer *for a specified group of students going to a specified group of four-year colleges within a specified time frame*. This is a vast improvement for most of the colleges. When asked if they had previously assessed the transfer of their students, 12 indicated, "No," while nine replied that their institutions had used follow-up surveys with low and varying response rates.

Because the two-year colleges used different methodologies to identify the pool of four-year colleges that were approached for information on former students, the transfer rates are not strictly comparable between institutions. Yet the primary value of the transfer rate data does not lie in interinstitutional comparisons, however interesting. It lies, rather, in the ability of individual colleges to monitor trends in the transfer of their own students. This can only be done if the college adopts and consistently uses a transfer rate indicator that is valid for its own students within specified conditions. The Transfer Assembly methodology is one way that colleges can build this capacity.

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