

**An Evaluation of Developmental Education in
Texas Public Colleges and Universities
Part 1
Developmental Education Outcomes**

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Introduction

In the spring of 1996, the National Center for Developmental Education (NCDE) was contracted by the Texas Higher Education Coordinating Board (THECB) to conduct an extensive evaluative study of the Texas Academic Skills Program (TASP). The study was completed in October of 1996 and findings were then shared with the Coordinating Board, the Texas Legislature, and Texas public colleges and universities.

Following submission of the report, the TASP was debated during the 1997 legislative session. Following this debate, a variety of TASP reform measures were passed by the Texas Legislature. A rider to the Appropriations Act passed during the 1997 legislative session directed the Coordinating Board to undertake a follow-up evaluation of developmental education in Texas colleges and universities. This follow-up evaluation was to assess the effectiveness of developmental education and to identify "best practices" in developmental education among Texas colleges and universities.

In keeping with this directive, the THECB contracted with the NCDE during the spring of 1998 to conduct a small scale follow-up study to the original TASP evaluation. The following reports are provided in partial fulfillment of that contract. Part 1 of the report provides an assessment of outcomes related to developmental education. Part 2 of the report identifies "best practices" in developmental education among Texas public colleges and universities and analyzes them on the basis of the literature and research in the field.

Methodology

Because of the limited amount of funding available for this project, it was determined that institutional surveys represented the most cost effective method of obtaining data. Consequently, a survey form was developed by staff of the National Center for Developmental Education. This survey form requested specific numerical data on a variety of issues of interest to the THECB and the Texas Legislature.

The survey form was submitted to the THECB for review by staff. As a result of this review several revisions were made in the form. Some revisions were made because it was determined that institutions were unlikely to have certain data. Other revisions were made to promote clarity or to address specific questions raised by the THECB staff.

A final version of the form was presented to the THECB in the spring of 1998. This version of the survey asked nine questions addressing seven general issues:

- 1) the use of local testing in addition to the TASP Test for placement in developmental courses,
- 2) the number of students failing one or more sections of the TASP Test,
- 3) the number of students with scores below 180 on specific sections of the test,
- 4) the number of students taking various developmental courses,
- 5) the number of students passing these courses,
- 6) the number of students passing the TASP Test following remediation, and
- 7) the number of students passing or not passing developmental courses who were retained after one year.

The form was then printed and distributed to all Texas public colleges and universities along with a cover letter providing instructions and describing the purpose of the survey.

Those responding to the survey form were advised that Dr. Ronald Swanson of the THECB would be available via telephone, FAX, email, or letter to answer questions regarding the survey. Several questions were raised about the survey and Dr. Swanson and Dr. Hunter Boylan of the NCDE collaborated in responding to these.

Survey responses were collected by the THECB in the spring of 1998 and forwarded to the NCDE for review and analysis. Of 75 Texas community colleges, responses were received from 44 colleges and four community college districts representing 52 individual institutions. Responses were received from 25 of 35 universities. This represented a 69.3% response rate for community colleges and a 71.4% response rate for universities. Because the overall response rate was well above 50%, it was considered to be adequate for purposes of this study.

It should be noted that not all of the respondents were able to answer all questions. Some institutions did not have the data necessary to

answer the questions. Others did not have populations addressed by the study. Some universities, for instance, were upper-level institutions and, as a consequence, did not use the TASP Test or did not have developmental courses. Although this further reduced the number of usable responses, the number of institutions providing usable data still represented a response percentage well above the norm for survey research.

Each institutional response was reviewed by THECB staff and, later, by NCDE staff. This review caused several surveys to be deleted from the sample because of obvious inconsistencies in the data reported. Following receipt and analysis of survey forms, information from each form received and judged to be accurate was then entered into a data base. Data base analysis was then used to generate totals and percentages for each category of question under consideration.

It should be noted that, although the survey response rate for this study was high, the data collected was based neither on a random sample nor on the total population of Texas public institutions. This limits the extent to which the findings may be generalized to all Texas institutions. Other limitations characteristic of survey research using self-reported data are also applicable to this study.

Findings for Community Colleges

Local Assessment at Community Colleges

Of the 44 community colleges responding to the survey, 37 (84.1%) reported that 27,094 students took a local assessment test prior to taking the TASP Test. However, only 33 of these institutions provided data on the number of students placed in particular developmental courses. The total number of students assessed through local instruments for these 33 institutions is 22,549 and their placement results are described in Table 1.

A total of 8,499 of these students or 37.7% were placed in developmental reading as a result of local assessment tests. A total of 9,114 of these students or 40.4% were placed in developmental English/writing as a result of local assessment tests. A total of 13,927 or 61.8% were placed in developmental mathematics as a result of local assessment tests. An unknown number of these students were placed in more than one developmental course as a result of local assessment.

On the basis of this information, it is apparent that developmental education on the majority of Texas campuses is based, at least partly, on local assessment instruments. The TASP Test, however, remains an important part of the assessment and placement process at community colleges.

Table 1

Number and Percent of Students Placing into Developmental Courses on the Basis of Local Assessment Tests, Fall of 1996

Subject	Number	Percent
Reading	8,499	37.7
English/Writing	9,114	40.4
Mathematics	13,927	61.8

Institutional *n* = 33

Of those students originally placed in developmental courses, some later passed the appropriate section of the TASP Test on their first attempt (see Table 2). Data for this question was provided for a total of 21,684 students from 31 individual community colleges. Of these students, a total of 1,750 or 8.1% of those placed in developmental reading later passed the TASP Reading Test on their first attempt. A total of 2,271 or 10.5% later passed the TASP Writing Test on their first attempt. A total of 2,626 or 12.1% later passed the TASP Mathematics Test on their first attempt.

These findings tend to validate the accuracy of TASP Test based placement in developmental courses. On the average, only about one of ten students who are placed in developmental education courses based on the TASP Test later place out of these courses by passing the TASP.

Table 2

Number and Percent of Students Placing into Developmental Courses on the Basis of Local Assessment Who Later Passed the Appropriate Section of the TASP Test on Their First Attempt, Fall of 1996

Subject	Number	Percent
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Reading	1,750	8.1
English/Writing	2,271	10.5
Mathematics	2,626	12.1

Institutional $n = 31$

Students Scoring Below 180 on TASP Test at Community Colleges

Staff of the THECB considered it important to identify the number of students who scored what was considered to be at the lowest levels of TASP Test. Having this information would enable the Coordinating Board to generate an estimate of the percentage of incoming students who were seriously unprepared for college level work. After consulting with THECB staff members, university, and community college personnel, it was determined that this level was a score below 180. It was assumed that students scoring below this point would need a substantial amount of developmental education if they were to have any hope of being successful in college.

Forty-four community colleges reported that a total of 13,334 students entering for the first time in the fall of 1996 failed one or more sections of the TASP Test. Of these, 1,276 or 9.6% scored below 180 on the reading section of the TASP Test, 1,313 or 9.8% scored below 180 on the writing section of the TASP Test, and 1,862 or 14.0% scored below 180 on the mathematics section of the TASP Test (see Table 3).

The data indicates that about one of every ten students entering Texas community colleges does so with extremely weak basic skills in English and reading. For mathematics, this figure is about half again as high.

**Table 3
Number and Percent of Students Scoring Below 180
on Various Segments of the TASP Test
at Community Colleges, Fall of 1996**

Subject	Number	Percent
Reading	1,276	9.6
Writing	1,313	9.8
Mathematics	1,862	14.0

Institutional $n = 44$

Students Taking Developmental Courses at Community Colleges

A total of 44 community colleges reported that 9,437 of the 13,334 (70.7%) first-time students who had failed one of more sections of the TASP Test took one or more developmental courses. This is a smaller percentage than reported in our earlier study of the TASP. There are several possible explanations for this. As noted above, some of the students who originally failed the TASP Test later retook it and passed, thereby eliminating them from the pool of students for whom developmental education was required. Others may have been excused from developmental courses under a variety of exemptions possible under new guidelines established by the Texas Legislature in 1995 and, again, in 1997. Although some of these exemption options were not available in the fall of 1996, many students and advisors recognized that they would be soon and might, therefore, have waited for this option to become available. It is also possible that many of these students participated in non-course based developmental education instead of developmental courses. Furthermore, some of the students in this sample may have taken the TASP Test earlier as high school students participating in dual credit courses offered by community colleges.

Data for students taking developmental courses, passing them, and later passing the appropriate section of the TASP Test was provided by individual community colleges and by districts. Districts aggregated their data and, as a consequence, figures for individual institutions within each district were not available.

Furthermore, neither all colleges nor all districts reporting had complete data for each of the questions on this topic. Data is, therefore, reported only for those institutions or districts that provided complete data sets. This included 37 individual colleges and two community college districts. The results are reported in Table 4 for individual colleges and Table 5 for community college districts.

Results from individual colleges are reported as follows. Of those students who had failed the TASP Reading Test, 2,238 took developmental reading, 1,647 (73.6%) passed the course, and of those who passed, 747 (45.4%) later passed the TASP Reading Test. Of those students who failed the TASP Writing Test, 2,733 took developmental English/writing, 1,988 (72.4%) passed the course, and of those who passed, 1,094 or 55.0% later passed the TASP Writing Test. Of those students who failed the TASP Mathematics Test, 5,510 took

developmental mathematics, 3,595 (65.2%) passed, and of those who passed, 1,200 (33.4%) later passed the TASP Mathematics Test.

Table 4
Students Taking Developmental Courses,
Passing Them, and Passing TASP Test
Individual Community Colleges, Fall of 1996

Subject	Took Course	Passed Course	Passed TASP Test
Reading	2,238	1,647 (73.6%)	747 (45.4%)
English/Writing	2,733	1,988 (72.4%)	1,094 (55.0%)
Mathematics	5,510	3,595 (65.2%)	1,200 (33.4%)

Institutional $n = 37$

Results from Community College Districts are reported as follows. Of those students who failed the TASP Reading Test, 400 took developmental reading, 385 (96.3%) passed the course, and of those who passed, 126 (32.7%) later passed the TASP Reading Test. Of those students who failed the TASP Writing Test, 1,062 took developmental English/writing, 991 (93.3%) passed the course, and of those who passed, 651 (65.7%) later passed the TASP Writing Test. Of those students who failed the TASP Mathematics Test, 1069 took developmental mathematics, 965 (90.3%) passed the course, and of those who passed, 286 (29.6%) later passed the TASP Mathematics Test.

These tables reflect substantial differences in TASP Test pass rates in reading and writing for community college districts and individual community colleges. However, these differences are unlikely to be meaningful. The limited sample size of community college districts makes any statistically valid comparison impossible.

Table 5
Students Taking Developmental Courses,
Passing Them, and Passing the TASP Test
Community College Districts, Fall of 1996

Subject	Took Course	Passed Course	Passed TASP Test
Reading	400	385 (96.3%)	126 (32.7%)
English/Writing	1062	991 (93.3%)	651 (65.7%)
Mathematics	1069	965 (90.3%)	286 (29.6%)

District $n = 2$

Retention of Students Passing and Not Passing Developmental Courses

A total of 37 individual community colleges and three community college districts reported data on the retention of students who had passed developmental courses and those who did not pass these courses. The data resulting from these questions are reflected in Table 6.

Of those who *had passed any* developmental course at individual community colleges, 7,159 or 53.7% were still enrolled at the institution for the fall semester of 1997. Of those who had *not passed any* developmental course, only 2,544 or 19.1% were still enrolled at the institution for the fall semester of 1997.

Of those who had *passed any* developmental course at community college districts, 2,515 or 60.9% were still enrolled at the institution for the fall semester of 1997. Of those who had *not passed any* developmental course, only 262 or 6.3% were still enrolled at the institution for the fall semester of 1997.

The data from these tables suggest that those who passed any developmental courses were much more likely to be retained than those who had not passed any developmental courses. This was true for both individual community colleges and community college districts. Although there were some differences in results for individual community colleges and community college districts, these are also unlikely to be meaningful because of the disparity in the size of the two samples.

Table 6
Retention of Students Who had Passed or Not Passed
Developmental Courses for Community College Districts
and Individual Community Colleges, Fall, 1996 to Fall, 1997

Reporting Unit	Total Students	Passing and Retained	Not Passing and Retained
C. C. Districts	4,133	2,515 (60.9%)	262 (6.3%)
Individual C.C.s	13,334	7,159 (53.7%)	2,544 (19.1%)

Individual Institutional *n* = 37

District *n* = 3

Findings for Universities

Local Assessment at Universities

Among Texas public universities, 16 of the 25 institutions reporting (64.0%) indicated that 9,897 students took a local placement test prior to taking the TASP Test (see Table 7). Of these, a total of 2,676 or 27% placed into developmental reading as a result of local assessment. A total of 4,709 or 47.6% placed into developmental English/writing as a result of local assessment. A total of 6,290 or 63.6% placed into developmental mathematics as a result of local assessment. An unknown number of these students were placed into more than one developmental course as a result of local assessment.

Table 7
Number and Percent of Students Placing into
Developmental Courses
on the Basis of Local Assessment - Universities

Subject	Number	Percent
Reading	2,676	27.0
Writing	4709	47.6
Mathematics	6,290	63.6

Institutional *n* = 16

Of those students placing into developmental courses on the basis of local assessment testing, a number of them later passed the appropriate section of the TASP Test on their first attempt. These figures were reported for 15 institutions and a total of 9,674 students and are displayed in Table 8.

A total of 1,083 or 11.2% of those placed in developmental reading later passed the TASP Reading Test on their first attempt. A total of 2,022 or 20.9% later passed the TASP Writing Test on their first attempt. A total of 1,988 or 20.5% later passed the TASP Mathematics Test on their first attempt. As in community colleges, these figures tend to validate the use of the TASP Test for placement in developmental education at universities.

Table 8
Number and Percent of Students Placed into Developmental Courses
on the Basis of Local Assessment Who Later Passed the TASP Test - Universities

Subject	Number	Percent
Reading	1,083	11.2
Writing	2,022	20.9
Mathematics	1,988	20.5

Institutional *n* = 15

Students Scoring Below 180 on the TASP Test at Universities

Twenty five universities responded that 7,790 of their students entering for the first time in the fall of 1996 failed one or more sections of the TASP Test (see Table 9). Of these, 1,064 or 13.7% scored below 180 on the TASP Reading Test. A total of 1,146 or 14.7% scored below 180 on the TASP Writing Test. A total of 1,235 or 15.9% scored below 180 on the TASP Mathematics Test.

Table 9
Students Scoring Below 180
on Various Sections of the TASP Test at Universities

Subject	Number	Percent
Reading	1,064	13.7
Writing	1,146	14.7
Mathematics	1,235	15.9

Institutional $n = 25$

One somewhat surprising piece of information revealed in Table 9 is that universities appear to have a higher percentage of entering students obtaining extremely low scores on various sections of the TASP Test than community colleges. This may or may not be of significance. It does, however, indicate that universities also have their share of seriously unprepared entering students.

Students Taking Developmental Courses at Universities

A total of 25 universities provided complete data on 7,790 students who initially failed one or more sections of the TASP Test. Of these, 5,972 took various developmental courses, passed them, and later took the appropriate section of the TASP Test (see Table 10).

A total of 1,994 students failed the reading section of the TASP Test and took developmental reading. Of these, 1,574 (78.9%) passed developmental reading. Of those who passed, 1,195 (75.9%) later passed the TASP Test. A total of 2,614 students failed the writing section of the TASP Test and took developmental English/writing. Of these, 1,878 (71.8%) passed developmental English/writing. Of those who passed, 1,603 (85.4%) later passed the TASP Writing Test. A total of 4,683 students failed the mathematics section of the TASP Test and took developmental mathematics. Of these, 3,130 (66.8%) passed developmental mathematics. Of those who passed, 2,048 (65.4%) later passed the TASP Mathematics Test.

As might be expected, Table 10 reveals that universities have a considerably higher post developmental education TASP Test pass rate than community colleges. Similar findings were reported in a previous evaluation of the TASP (Boylan, et al., 1996).

Table 10
Students Taking Developmental Courses,
Passing Them, and Passing the TASP Test
Universities, Fall of 1996

Subject	Took Course	Passed Course	Passed TASP Test
Reading	1,994	1,574 (78.9%)	1,195 (75.9%)
English/Writing	2,614	1,878 (71.8%)	1,603 (85.4%)
Mathematics	4,683	3,130 (66.8%)	2,048 (65.4%)

Institutional $n = 25$

Retention of Students Passing and Not Passing Developmental Courses

A total of 20 institutions reported data on the retention of students who had passed developmental courses versus those who did not pass these courses. The results are presented in Table 11.

Of those who *had passed any developmental course*, 3,964 or 66.4% were still enrolled at the institution for the fall semester of 1997. Of those who *had not passed any developmental course*, only 575 or 9.6% were still enrolled at the institution for the fall semester 1997. As was the case for community colleges, those passing developmental courses were much more likely to be retained than those who do not pass them. At universities, those passing developmental courses are six times more likely to be retained for one year than those who fail them.

Table 11
Retention of Students Who Had Passed or Not Passed
Developmental Courses
Universities, Fall of 1996 to Fall of 1997

Total Students	Passed and Retained	Not Passed and Retained
5,972	3,964 (66.4%)	575 (9.6%)

Institutional $n = 20$

Discussion of Findings

Use of Local Assessment for Placement Purposes

In a previous study of the Texas Academic Skills Program (Boylan, et al., 1996), it appeared that the majority of Texas public colleges and universities used some local assessment instruments in addition to the TASP Test for placement purposes. When questioned about this practice, the reasons typically given were that local faculty were interested in skills not measured by the TASP Test, that TASP Test results occasionally were not reported quickly enough to be useful in the placement process, or that the TASP Test measured skills at too low or too high a level to be completely useful to the institution.

The available data suggests that the use of local assessment instruments in addition to the TASP Test has continued and, perhaps, even increased in the past two years. Of the 44 community colleges responding to this survey 37 or 84.1% used local tests in addition to the TASP Test. All of the community college districts responding to the survey reported the use of local tests in addition to the TASP Test. Of the 25 universities responding, 16 or 64% reported using local assessment instruments for placement purposes.

In the fall of 1996, 37 community colleges and four community college districts reported testing a total of 38,811 students using instruments other than the TASP Test. A total of 16 universities reported testing a total of 9,897 students using instruments other than the TASP Test.

Local placement results at community colleges appear to be fairly consistent with TASP Test results. Of those placed into developmental reading as a result of local testing at community colleges, 91.9% also failed the TASP Reading Test. Of those placed into developmental English/writing, 89.5% also failed the TASP Writing Test. Of those placed into developmental mathematics, 87.9% also failed the TASP Mathematics Test. In essence, those who obtained low scores on the local assessment instrument obtained similarly low scores on the TASP Test.

Local placement results at universities were not quite as consistent with TASP Test results as was the case in community colleges. Of those placed into developmental reading as a result of local testing at universities, 89.8% later failed the TASP Reading Test. Of those placed into developmental English/writing, 79.1% later failed the TASP Writing Test. Of those placed into developmental mathematics, 79.5% later failed the TASP Mathematics Test.

These findings suggest that those who fail a particular section of the local placement test are very likely to fail the same section of the TASP Test. Nevertheless, these findings cannot be used to support the claim that local tests are more or less accurate than the TASP Test. The findings only suggest that there is some degree of consistency in the results of local assessment instruments and the TASP Test and that this consistency appears to be somewhat higher at community colleges than at universities.

The findings also lend some credence to the claim that the TASP Test does not measure skills at a high enough level for some institutions, particularly universities. About 20% of those who placed into developmental education as a result of local assessment at universities still managed to pass the TASP Test. It may be assumed therefore, that up to 20% of those in university developmental courses would not have been placed there had the TASP Test been used as the only assessment and placement instrument. This further supports the use of local instruments in addition to the TASP Test for assessment and placement purposes at universities.

Students Placing into Developmental Courses

A fairly high percentage of the 1996 incoming Texas college and university students taking local assessment instruments were placed in developmental courses as a result, particularly in the area of mathematics. In community colleges, 61.8% of those taking a local assessment test were placed into developmental mathematics. In universities, 63.6% of those taking a local assessment test were placed into developmental mathematics.

As might be expected, the percentage of students placed into developmental reading as a result of local assessment was higher in community colleges than in universities. In community colleges, 37.7% of those tested using local assessment instruments were placed into developmental reading but only 27% of those entering universities were placed in developmental reading. There was also some difference between universities and community colleges in the percentage of students placing into developmental English/writing as a result of local testing. At universities, 47.6% of those tested using a local assessment instrument placed into developmental English/writing. At community

colleges, this figure was only 40.4%.

Although there were some differences between community colleges and universities in the percentage of entering students being placed in developmental courses, both types of institutions admitted students who, in varying degrees, were less than fully prepared for college-level work. This suggests a continued need for developmental education, not only in community colleges, but also in universities.

Students Scoring Below 180 on the TASP Test

As noted earlier in this report, THECB and college and university officials believed that many students taking the TASP Test and subsequently placing into developmental courses were extremely weak academically. A score below 180 in any sub-test of the TASP Test was considered to represent a severe academic skill deficiency. For students scoring at this level, it was unlikely that they would be able to pass the TASP Test without at least two or three semesters of developmental education. Consequently, for these students the use of post developmental education TASP Test pass rates within a single academic year would not be a fair measure of program or institutional performance.

It was also believed that the number of students dropping out of college prior to completion of the TASP Test might be accounted for by this group of students. It is reasonable to assume that a very high level of motivation would be required for such students to continue in non-credit developmental courses over a long period of time. Lack of motivation among students enrolled in developmental courses was consistently cited as a problem by faculty interviewed in the earlier TASP study (Boylan, et al., 1996).

The current study found that, depending upon the TASP Test subject area and the type of institution, 10-15% of those taking the TASP Test score below 180 (see Tables 3 and 9). This suggests that at least one of ten students entering Texas public colleges and universities does so with such severe academic skills deficiencies as to make passing the TASP Test difficult even with substantial amounts of developmental education.

This finding further suggests that a small but, nevertheless, notable minority of Texas high school graduates are thoroughly unprepared for college-level academic work. This finding is consistent with data provided to the THECB by major testing companies. Also, according to the National Center for Education Statistics (NCES), just under half of those applying to colleges and universities nationally have not taken a full battery of college preparatory courses in high school (NCES, 1996). It is reasonable to assume that, to the extent this is true of Texas, it would lead to a serious lack of preparation for college level work among many entering college students.

Such deficiencies on the part of entering students have a negative impact on any evaluation of the TASP in general or of developmental education in particular. The fact that the pool of those retaking the TASP Test following developmental education includes 10-15% of students with serious academic shortcomings may, to some degree, artificially deflate the impact of developmental education in Texas public colleges and universities. It is unlikely that the effects of developmental education can be demonstrated for such students during a time frame of only one year. Consequently, any measure of post developmental education TASP Test pass rates would show little gain for these students.

Pass Rates in Developmental Courses

The findings of this study indicate that a substantial majority of students who take developmental courses in Texas public colleges and universities pass them within one year. When results from individual community colleges and community college districts are aggregated, 77.3% passed developmental reading, 78.5% passed developmental English/writing, and 69.2% passed developmental mathematics within one year. Of those enrolled in developmental courses at universities, 78.9% passed developmental reading, 71.8% pass developmental English/writing, and 66.8% passed developmental mathematics. These pass rates are about the same as those reported by the National Center for Education Statistics (NCES). In a study of developmental courses in the fall of 1995, the NCES found that approximately 75% of those who took developmental courses passed them within one year (NCES, 1996).

These findings suggest that having to pass developmental courses does not serve as a barrier to continuation in college. A substantial percentage of those enrolled in developmental courses do, indeed, pass them within one year. Most are likely to pass them within one semester. Furthermore, the pass rates in developmental courses among Texas public institutions are consistent with developmental education, generally, in the United States. Students in developmental courses at Texas institutions are about as likely to pass them as students enrolled at institutions in other states.

Post Developmental Education TASP Test Pass Rates

This study attempted to identify the percentage of students who failed their initial attempt at the TASP Test, participated in developmental courses, and later passed the appropriate section or sections of the TASP Test. It should be noted at the outset, however, that limitations in the data collection procedures produced artificially low results on this measure.

This study was able to identify the percentage of those who failed one or more sections of the TASP Test, took developmental education, and later *took and passed* the appropriate section of the TASP Test. These findings are difficult to interpret, however, because an *unknown* number of the students passing developmental courses *never attempted* to retake the TASP Test. In other words, the post developmental education pass rates reflected here might be higher but could not be any lower. This is because those who did not take the TASP Test following developmental education are counted in this study as having failed it.

There are several reasons why those who passed developmental courses might not have taken the TASP Test. Many students passing developmental courses might later have been advised to take advantage of the recent option to be exempted from passing the TASP Test by taking a designated course and earning a grade of B or better. Other students may have delayed retaking the TASP Test for more than two semesters following participation in developmental education and their results would, therefore, be unavailable for inclusion in this study. Still others may have dropped out or "stopped out" (Tinto, 1987) of college after participating in developmental courses but before retaking the TASP Test.

The results discussed here only represent those students who failed one or more sections of the TASP Test, passed developmental courses, and actually took the TASP Test at some point within the next two semesters. Given this, it is difficult to interpret the meaning of post developmental education TASP Test results. It can be said that among community college students, *at least* 45.4% of those passing developmental reading courses later passed the TASP Reading Test, that *at least* 55% of those passing developmental English/writing later passed the TASP Writing Test, and *at least* 33.4% of those passing developmental mathematics later passed the TASP Mathematics Test. At universities, *at least* 75.9% of those passing developmental reading later passed the TASP Reading Test, *at least* 85.4% of those passing developmental English/writing later passed the TASP Writing Test, and *at least* 65.4% of those passing developmental mathematics later passed the TASP Mathematics Test.

Because this study deals with a group of students, *all of which had previously failed* one or more sections of the TASP Test, it can reasonably be implied that TASP-based developmental education is at least somewhat successful. This implication is further supported by the fact that 10-15% of the students in this sample had original TASP Test scores below 180 and, therefore, were unlikely to pass a TASP Test even following developmental education.

Developmental education appeared to be more successful at universities than at community colleges. This should not be surprising given the fact that all the community colleges in the study were "open admission" institutions and most of the universities in the study were at least moderately selective in their admission practices.

The data also indicates that developmental education was consistently more successful in English/writing than in mathematics and somewhat more successful in English/writing than in reading. This was true of both community colleges and universities.

In spite of the qualifications noted above, the average post developmental education TASP Test pass rates for all institutions reported may be described as disappointingly low even given the limitations of the data. This general statement, however, does not truly reflect the state of developmental education in Texas. Some institutions have high post developmental education TASP Test pass rates in some subjects. Other institutions do not. This data is reflected in the frequency distributions shown in Tables 12, 13, and 14.

Table 12: Distribution of Post-Developmental Education TASP Test Pass Rates for Writing

Table 13: Distribution of Post-Developmental Education TASP Test Pass Rates for Reading

Table 14: Distribution of Post-Developmental Education TASP Test Pass Rates for Mathematics

note: vertical axes represent "number of institutions."

As noted in these tables, there are 16 universities and three community colleges with post developmental education TASP Test pass rates of over 80% in Writing. There are ten universities and one community college with post developmental education TASP Test pass rates of over 80% in reading. There are five universities and two community colleges with post developmental education TASP Test pass rates of over 80% in mathematics. Obviously, there are several institutions in Texas doing an extremely good job of developmental education.

Unfortunately, there are others doing what appears to be poor job of developmental education. Five community colleges had post developmental education pass rates in writing of 30% or below. On the other hand, no universities reported post developmental education TASP Test pass rates at 30% or below in writing. Nine community colleges and two universities reported post developmental education pass rates at 30% or below in reading. Five universities and four community colleges reported post developmental education pass rates at 30% or below in mathematics. When calculated as an *average* for all Texas public institutions, post developmental education TASP Test pass rates are not impressive. When looked at on an institution by institution basis, some are exceptionally high and some are disappointingly low.

Developmental Education Pass Rates and Student Retention

The findings of this study suggest that passing *any* of the developmental courses in which a student is placed is associated with retention. At individual community colleges, community college districts, and universities the findings were consistent. Depending upon institutional type, students who passed developmental courses were three to six times more likely to be retained for one year than students who did not pass developmental courses.

This finding is consistent with national data on the relationship between success in developmental courses and retention. According to the

National Study of Developmental Education, student success in developmental courses taken during the first year was strongly correlated with retention and graduation (Boylan, Bonham, Bliss, & Claxton, 1992). The same appears to be true in Texas.

Conclusions

Most of the findings of this report were consistent with what is commonly known about the Texas Academic Skills Program and developmental education in Texas. In general, these findings suggest that:

- a) there are large numbers of students entering Texas public colleges and universities who are, to some degree, underprepared for college work;**
- b) a small but, nevertheless, significant minority of these students enter college almost totally unprepared for college work;**
- c) a combination of local instruments and the TASP Test are generally used for placing students in developmental courses;**
- d) the majority of those students taking developmental courses pass them within one year;**
- e) passing a developmental course, however, does not guarantee passing the TASP Test in the same subject area;**
- f) the overall quality of developmental education as measured by TASP Test pass rates is very uneven, with some institutions being much more successful than others; and**
- g) passing a developmental course at any institution is related to first year retention.**

For a variety of reasons which go beyond the scope of this report, a large number of Texas high school graduates are either *relatively unprepared* or *absolutely unprepared* for college-level academic work. Relatively unprepared students are those who may lack skills in only one area measured by the TASP Test. Most typically, this area is mathematics. The relatively unprepared group might also include those who fail the TASP Test in more than one area but whose scores, although low, are at least close to passing. These students have a very good chance of being successful in college with only a modest amount of developmental education.

Absolutely unprepared students are those who fail more than one section of the TASP Test or who have scores below 180 on one or more sections of the test. These students are likely to need a substantial amount of developmental education in order to be successful.

The fact that large numbers of students enter Texas colleges and universities relatively underprepared is not exceptional. This is the case in most state public higher education systems (Knopp, 1996; National Center for Education Statistics, 1996). The problem in Texas is that, in addition to these students, a large number of absolutely unprepared students are also entering the system. The result is that, although the national average for incoming students placing into developmental courses is about 30% (National Center for Education Statistics), the average in Texas is considerably higher.

This is not surprising in light of information recently made public by the national testing companies serving Texas high school students. Reports by both ACT (1998) and The College Board (1998) suggest that Texas high school graduates are scoring well below the national average on verbal and mathematics skills. Yet, an astonishing 47% of those taking the ACT test in Texas report that they are A students (College Board, 1998). Texas high school students can apparently obtain good grades and still fall below the national norm on tests of basic academic skills. This suggests the possibility that grade inflation may be a factor here.

Furthermore, although more than half of Texas high school graduates have taken college preparatory courses, many of those planning to go on to college have not taken these courses (ACT, 1998). It should come as no surprise, therefore, that Texas high school graduates enter college unprepared for college-level academic work.

The underpreparedness of these students is reflected in their scores on the TASP and on local assessment instruments. Although there is some consistency in scores on TASP and local assessment instruments, it appears that both kinds of assessment serve a useful purpose at Texas institutions and may be necessary to improve the accuracy of placement at some institutions.

The results of this study indicate that the large number of underprepared students entering Texas institutions require that developmental education courses and services be provided by both colleges and universities. This requirement is, however, higher at community colleges than at universities.

Students who enroll in these developmental courses are likely to pass them at rates consistent with national averages. However, passing a developmental course in a particular subject area does not generally guarantee passing the TASP Test in the same area.

Given the unevenness of developmental education at different institutions noted in this report and a previous TASP evaluation (Boylan, et al., 1996), this is to be expected. Even *if* efforts had been undertaken to improve the general quality of developmental education in Texas public institutions during the fall of 1996, the effect of such efforts would be unlikely to show up by the fall of 1997.

Furthermore, it should be noted that even the most effective developmental courses or programs cannot insure that everyone will pass the TASP Test. Bringing students up to an adequate level of academic skill through developmental education is, at best, a difficult and challenging task requiring skill and preparation on the part of instructors, advisors, counselors, and tutors. The normal problems inherent in

accomplishing this task are exacerbated by the fact that 10-15% of the students entering Texas public colleges and universities possess extremely weak academic skills. In spite of this, the findings of this report suggest that passing a developmental course in a given subject does increase the likelihood of passing the TASP Test in that subject.

The findings of this report also suggest that participation in developmental courses is associated with student retention. Those who pass these courses are much more likely to be retained than those who do not pass.

Perhaps the most important finding of this study is that, although the quality of developmental education in Texas higher education is uneven, the developmental programs at many institutions are quite successful. The challenge for Texas public colleges and universities is to learn from successful institutions and apply the resulting knowledge to strengthening developmental education at less successful institutions. Part 2 of this study is designed to identify the best developmental education practices in Texas institutions so that developmental education throughout Texas might be improved.

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