Underprepared Students in Kentucky:

A First Look at the 2001 Mandatory Placement Policy

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Heidi Hiemstra, Ph.D.
Senior Associate, Research and Policy Analysis

http://cpe.ky.gov

Kentucky Council on postsecondary education

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A First Look at the 2001 Mandatory Placement Policy

Kentucky Council on Postsecondary Education
November, 2005

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Underprepared Students in Kentucky:
A First Look at the 2001 Mandatory Placement Policy

EXECUTIVE SUMMARY

Kentucky Council on Postsecondary Education
November, 2005

In fall 2001, Kentucky instituted a placement policy mandating that all students entering undergraduate programs at public institutions who receive a score of 17 or below on ACT subject exams in math, English or reading be placed in remedial coursework or receive supplemental help in those subjects. This study examines the incoming class from fall 2002 and follows them through their first two years of postsecondary study, examining their remedial needs, their remedial course-taking, and their retention to the second year.

The data used in this report are administrative data submitted as student-unit records by the public postsecondary institutions to the Council's Comprehensive Database during the 2002-03 and 2003-04 academic years. The report is based on descriptive statistics about the 26,646 students who entered Kentucky's public two and four-year institutions in the fall of 2002 as full or part-time students seeking degrees or other credentials, and for whom CPE received the ACT, SAT or on-campus placement exam scores needed to classify their preparation level.

How underprepared for postsecondary study was Kentucky's college entry cohort of 2002?

This question helps gauge the degree of remedial services that postsecondary institutions need to provide for their students. The number of entering students needing remediation is also seen as a measure of the quality of Kentucky's P-12 education system, although this is not quite true. An incoming college class includes students who graduated from high schools in other states, earned GEDs, or were adult students who graduated from Kentucky high schools before recent educational reforms. To help answer this important policy question, Figure A above presents the preparation levels of the entire

Figure A. Students Entering College Underprepared in Fall 2002 (Scoring 17 and below in ACT subject exams)

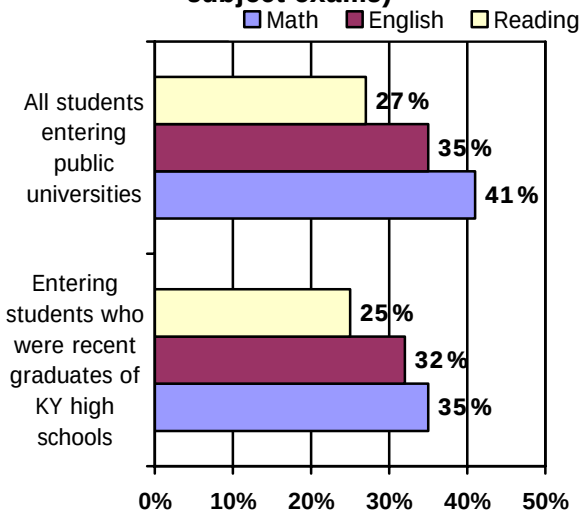
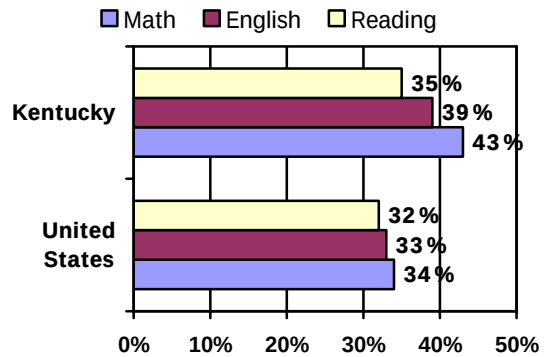


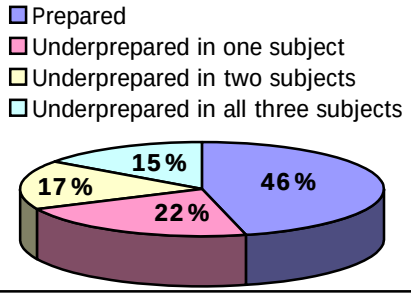
Figure B. High School ACT Takers Scoring 17 and Below on ACT Subject Exams in 2002



fall 2002 entry cohort and of the subset who graduated from Kentucky high schools in 2001 or 2002. These recent high school graduates make up 63 percent of the total entry cohort. National data is also presented for comparison in Figure B.

Overall, a slim majority of 54 percent of students who entered certificate and degree programs at Kentucky's public institutions of higher education in fall 2002 were under-prepared for college-level study in at least one subject. Many of these under-prepared students were underprepared in more than one subject as can be seen below.

Figure C. Depth of Remedial Needs, Entire Public College Entry Cohort 2002



There was wide variation in preparation level among the institutions due to their differing missions and student selectivity, ranging from 15 percent at UK to 85 percent at KSU. Demographically, non-traditional students and students from some racial-ethnic minority groups were much less well prepared for college-level study than their peers (see table 4 in the full report for details).

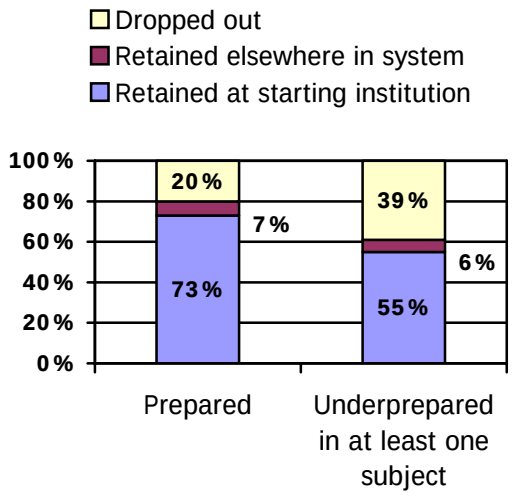
How underprepared were recent graduates of Kentucky high schools?

Recent graduates of Kentucky high schools were slightly better prepared for college than was the entire entry cohort in 2002. Overall, slightly less than half (48 percent) were underprepared in at least one subject, and 29 percent were underprepared in two or three subjects, compared to 32 percent in the college entry cohort as whole. Looking at Figure B, college entrants who were recent graduates of Kentucky high schools compared favorably to ACT takers nationally, although ACT, Inc. counsels against making this kind of comparison given the wide demographic differences between states.

Were underprepared students retained?

Students who came to college underprepared were less likely to return for their second year. Systemwide, nearly three-quarters of prepared students came back for a second year of study at the institution where they started, compared to slightly over half of those who were underprepared in at least one subject (Figure D). Also, underprepared students were twice as likely to drop out of college altogether as were those who were prepared: 39 percent compared to 20 percent.

Figure D. Student Retention by Level of Preparation

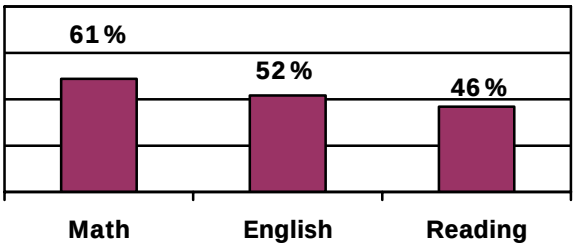


Students who were underprepared in all three subjects were even less likely to be retained – only 50 percent returned for a second year of study.

Did underprepared students take remedial courses?

Systemwide, only a slim majority of underprepared students were remediated in a given subject (Figure E). The leaders in remediation were Morehead State University, Kentucky State University and Eastern Kentucky University, who each remediated between 82 – 95 percent of their underprepared students. Other schools had lower remediation rates, the lowest remediating only 40 percent of their retained, underprepared students in a given subject by the end of their second year. These numbers do not include students who received tutoring and

Figure E. Remediation of Underprepared Students by Subject
(Includes supplemented college-level courses)



other forms of academic support not tracked in remedial course data. Supplemented college-level courses that meet the requirements of the Mandatory Placement Policy are included where that data was available.

While this remediation picture looks poor, it is important to note that these numbers undercount the actual remediation rates because this report does not include on-campus placement exam data from the four-year institutions. Students who enter with low ACT or SAT scores have an opportunity to place out of remediation by passing on-campus placement exams, which would reclassify them as "prepared." Institutions were not required to collect and submit the results of these exams in the 2002 reporting year. Consequently, this analysis does not reflect the reclassification of students who placed out of remediation by taking on-campus placement exams. Also, some schools did not report supplemented college-level courses in 2002, so these remedial efforts are not included here.

Despite the limitations of this data, Council staff believes it is necessary to highlight these remediation rates because they measure the crux of the Council's mandatory placement policy: are underprepared students receiving the help they need to succeed? The Council is committed to pursuing excellence in the provision of services to academically at-risk students, and accountability is essential to this endeavor.

This report examines the college preparation level and remediation of the postsecondary entering class of fall 2002. Some institutions have made substantial changes in their remediation polices since the academic years covered in this report. Also, CPE has been working to improve its data collection concerning remediation and academic supplementation. The Council will continue to evaluate these remedial polices and programs, and hopes to look in more depth at the outcomes of underprepared students in the future.

Underprepared Students in Kentucky:
A First Look at the 2001 Mandatory Placement Policy

Kentucky Council on Postsecondary Education

Heidi Hiemstra, Ph.D.
November 2, 2005

In 2001, the Kentucky Council on Postsecondary Education instituted a placement policy that mandates that all students entering undergraduate programs at public institutions with low scores on math, English or reading college entrance exams be placed in remedial coursework or receive supplemented college-level courses in those subjects. This study examines the incoming class of 2002, following them through their first two years of postsecondary study and presenting information on their remedial needs, their remedial and supplemented course taking and their retention to the second year.

Kentucky's Mandatory Placement Policy

The 2001 Mandatory Placement Policy, which can be found in Section 6 of 13 KAR 2:020 on College Admissions, requires that institutions remediate all students scoring a 17 or lower on the ACT subject exams in math, English or reading. The SAT can be substituted for the ACT, and students can also take on-campus placement exams if they have not taken the ACT or SAT or if they scored a 17 or lower and want to try to place out of remediation. On-campus placement exams include standardized exams such as Compass and Accuplacer or custom exams developed by institutions or departments. A crosswalk of standardized exam scores and cut-offs is provided in the appendix of this report.

It is important to note that this Mandatory Placement Policy, which was approved in 2001, is different from the Statewide Public Postsecondary Placement Policy in English and Mathematics that the Council approved in November 2004. The latter policy establishes the skill levels at which students *cannot* be required to take non-credit-bearing remedial courses by their institutions. This policy came about because the Council wanted to develop a clear and consistent statewide placement policy that would communicate to entering students what skill levels they would need to succeed in college-level English and math. The Council was also able to incorporate into this policy some of the standards developed by the American Diploma Project, a national initiative to align high school standards with postsecondary and workplace expectations.

These two remediation policies can be thought of as a floor and a ceiling for remediation. Below the floor, institutions must remediate students and above the ceiling, institutions cannot require that students take non-credit-bearing remedial courses. In English, the floor and the ceiling correspond. Students with an ACT score in English of 17 or lower must be remediated, and students scoring 18 or higher must be placed in a credit-bearing class. In math, ranges of ACT scores were established for entry into different levels of math, from "Mathematics for Liberal Arts Majors" to calculus. This report only addresses the original Mandatory Placement Policy which is currently in its fifth year of implementation. The Statewide Public Postsecondary

Placement Policy in English and Mathematics, passed in 2004, is too new to include in this report but will be examined in the future.

Data and Methodology

The data used in this report are administrative data submitted as student-unit records by the public postsecondary institutions to the Council's Comprehensive Database during the 2002-03 and 2003-04 academic years. These records include enrollment and demographic information, as well as a file that was designed to track the implementation of the Mandatory Placement Policy, the Student Feedback File. This file includes students' scores on entrance and on-campus placement exams, remedial course-taking information, GPAs and students' grades in a few courses, all through the end of their second year of study. Preliminary tables were sent to the institutions for review and comment in August 2005, and institutions were given the opportunity to revise their data at that time.

During the 2002-03 and 2003-04 academic years included in this report, institutions were not required to submit the results of their on-campus placement exams to CPE. KCTCS provided these exam results voluntarily, but the four-year institutions did not. Consequently, for the four-year institutions, only those students who took an ACT or SAT exam are included in this report. This lack of on-campus placement exam data significantly limits the results presented in this report. Underprepared students who placed out of remediation through on-campus placement exams should be reclassified as "prepared," but without on-campus placement exam results for students at the four-year schools, this reclassification cannot be done. The tables that are impacted the most by this data limitation are labeled throughout the report, and efforts are being made to collect this data for subsequent cohorts. Another limitation in the data is that some schools did not record or report supplemented college-level courses in 2002, so these courses are undercounted at the system level.

The methodology of this report is straightforward. It includes descriptive statistics about the 26,646 first-time students at Kentucky's public two and four-year institutions in the fall of 2002 for whom CPE received ACT, SAT or on-campus placement exam scores. An additional 2,397 first time students in the fall of 2002 were excluded from the analysis because of missing exam data, most of whom attended KCTCS. No causal modeling and only limited little inferential statistics are used in this report.

Underprepared and Prepared Students, College Entrants vs. Recent High School Graduates

The first question addressed in this report is how underprepared for postsecondary study were first-time freshmen in the fall of 2002? The answer to this question is important because it gauges the amount of remedial services that postsecondary institutions must provide for their students. The number of entering students needing remediation is also seen as a measure of the quality of Kentucky's P-12 education system, although this assumption is more problematic. An incoming college class includes students who graduated from high schools in other states, earned GEDs, or were adult students who graduated from Kentucky high schools before recent educational reforms. To answer both of these important policy questions, two separate

analyses are presented below, one including all the students who entered college in fall 2002 and another analysis of the subset of those students who graduated from high school in Kentucky in 2001 or 2002. Sixty-three percent of the total entry cohort fell into this group of recent graduates of Kentucky high schools. Data for the entering class as a whole is presented below, with the analysis of recent graduates of Kentucky high schools beginning on page 8 of this report.

Preparation Levels of Kentucky's First-year Students in 2002

Overall, a slight majority of 54 percent of all students entering certificate and degree programs at Kentucky's public postsecondary institutions in Fall 2002 were underprepared in at least one subject. Students entering the different institutions had differing preparation levels, levels that varied according to the institutions' student mix and level of selectivity. KCTCS had very high rates of underprepared entering students – 76 percent overall, compared to 39 percent of those entering four-year institutions. Among the four-year institutions, levels of underprepared students varied widely. The University of Kentucky had the lowest rate, 15 percent, while Kentucky State had the highest at 85 percent.

Table 1. Underprepared Students by Institution and Sector: Incoming Class of 2002

		2002 credential-seeking cohort with placement data	Preparation level of students	
			Prepared	Under-prepared
Two-Year Public	**KCTCS**	**10,545**	**24.0%**	**76.0%**
Four-year public	**Eastern Kentucky University**	2,163	52.1%	47.9%
	Kentucky State University	313	14.7%	85.3%
	Morehead State University	1,418	39.0%	61.0%
	Murray State University	1,434	61.2%	38.8%
	Northern Kentucky University	1,907	40.9%	59.1%
	University of Kentucky	3,671	85.5%	14.5%
	University of Louisville	2,260	76.9%	23.1%
	Western Kentucky University	2,935	52.4%	47.6%
	Sector Total	**16,101**	**60.8%**	**39.2%**
TOTAL		**26,646**	**46.3%**	**53.7%**

Preparation Levels in Math, English and Reading

Examining each of the three subjects individually, math was the subject in which the highest numbers of students were underprepared – 41 percent overall. Math was also the subject in which the most students were underprepared at each of the institutions, with the exception of Murray State, which had more students underprepared in English than in math (Table 2).

Table 2. Underprepared Students by Subject, Institution and Sector

		2002 credential-seeking cohort with placement data	Percent under-prepared in math	Percent under-prepared in reading	Percent under-prepared in English
Two-year public	**KCTCS**	**10,094**	**59.5%**	**39.2%**	**51.8%**
Four-year public	**Eastern Kentucky University**	2,129	36.4%	20.1%	29.1%
	Kentucky State University	270	76.3%	60.7%	74.8%
	Morehead State University	1,357	47.3%	29.5%	39.5%
	Murray State University	1,429	21.0%	15.9%	27.9%
	Northern Kentucky University	1,695	44.8%	30.1%	40.1%
	University of Kentucky	3,359	8.0%	5.5%	6.0%
	University of Louisville	2,063	13.8%	7.6%	9.0%
	Western Kentucky University	2,808	36.4%	24.4%	28.4%
	Sector Total	**15,110**	**28.2%**	**18.2%**	**24.0%**
TOTAL		**25,204**	**40.7%**	**26.6%**	**35.1%**

(1,442 students with missing exam results on one or more of these subjects are excluded from table 2.)

For comparison, the national and Kentucky rates of ACT takers scoring 17 or below in 2002 are as follows:

	All Entering KY PSE Students, 2002 (N = 25,204)	**Subset who graduated high school in KY in 2001 or 2002 (N = 15,990)**	**All ACT takers in Kentucky, 2002[1] (N = 29,532)**	**All national ACT takers, 2002[2] (N = 1,116,082)**
Math	41%	35%	43%	34%
Reading	27%	25%	35%	32%
English	35%	32%	39%	33%

These numbers suggest that while significant proportions of incoming students are not well prepared for college-level work, the rates for Kentucky's recent high school graduates who entered college are similar to or better than national rates. Kentucky's college entrants are substantially better prepared in reading than are ACT takers nationally. However, when looking at all the ACT takers in Kentucky, not just those who entered college, the comparison to national percentages is more troubling, with Kentucky's high school students performing poorly in math. It is important to note that ACT, Inc. cautions against this sort of comparison between state and national ACT results because they reflect differences in income and other demographic characteristics between states as much as differences in P-12 preparation.

Depth of Remedial Needs

Looking at students who were underprepared in more than one subject, one-third (33 percent) of incoming students systemwide were underprepared in two or three subjects (Table 3, next page). One in five students were underprepared in just one subject (22 percent). The number of subjects in which a student is underprepared is important because multiple needs require a student to take multiple remedial courses and greatly increase that students' risk of dropping out of college altogether, as can be seen below.

KSU had the largest proportion of students who needed remediation in two or three areas – 75 percent. The depth of remedial need at KSU is demonstrated by the fact that half of KSU's students were underprepared in all three subjects, with another quarter underprepared in two. KCTCS had the next largest proportion of students needing remediation in two or three subjects at 50 percent.

[1] Kentucky figures are from Table 4, page 6 of ACT Inc.'s "ACT High School Profile Report, Graduating Class of 2002, State Composite for Kentucky."
[2] National figures are from Table 4, page 6 of ACT Inc.'s "ACT High School Profile Report, Graduating Class of 2002, National Report."

Table 3. Number of Subjects in which Students were Underprepared by Institution and Sector

		2002 credential-seeking cohort	Number of subjects in which students were underprepared			
			0	1	2	3
Two-year public	**KCTCS**	**10,094**	**23.5%**	**26.3%**	**26.3%**	**23.9%**
Four-year public	**Eastern Kentucky University**	2,129	51.7%	21.8%	15.6%	10.9%
	Kentucky State University	270	13.0%	12.2%	24.8%	50.0%
	Morehead State University	1,357	37.5%	26.7%	17.8%	18.0%
	Murray State University	1,429	61.1%	20.1%	11.8%	7.1%
	Northern Kentucky University	1,695	39.2%	24.6%	18.2%	18.0%
	University of Kentucky	3,359	85.0%	11.0%	3.6%	0.5%
	University of Louisville	2,063	75.8%	18.8%	4.7%	0.7%
	Western Kentucky University	2,808	51.9%	21.0%	13.1%	14.0%
	Sector Total	**15,110**	**59.9%**	**19.3%**	**11.3%**	**9.5%**
TOTAL		**25,204**	**45.4%**	**22.1%**	**17.3%**	**15.3%**

(1,442 students with missing exam results on one or more of these subjects are excluded from table 3.)

Preparation Levels by Demographic Characteristics

There was wide variation in student preparation by demographic characteristics. One of the most significant differences was between racial-ethnic groups. White, non-Hispanics were substantially better prepared for college-level study (50 percent underprepared) than were members of most racial-ethnic minority groups, with the exception of Asians and Pacific Islanders, 44 percent of whom were underprepared. African Americans were the largest minority group and also the least well prepared, with 78 percent needing remediation. Sixty-one percent of Hispanic students were underprepared. These differences follow the same achievement-gap patterns seen in other education statistics and reiterate the need for improved attention to the needs of racial-ethnic minority students at all levels of education.

Table 4. Preparation Level by Student Demographics, All Public Institutions

	Preparation level of students		
	Prepared	**Underprepared**	**Total**
GENDER			
Female	45.2%	54.8%	**14,961**
Male	48.3%	51.7%	**11,278**
FULL/PART TIME			
Full time	49.7%	50.3%	**23,173**
Part time	22.4%	77.6%	**3,066**
RACE			
Nonresident Alien	49.5%	50.5%	**91**
Black, Non-Hispanic	22.5%	77.5%	**2,153**
American Indian or Alaskan Native	30.8%	69.2%	**65**
Asian or Pacific Islander	56.3%	43.7%	**279**
Hispanic	39.2%	60.8%	**237**
White, Non-Hispanic	49.8%	50.2%	**22,259**
Unknown	26.8%	73.2%	**1,155**
RESIDENCY			
In-State	44.4%	55.6%	**22,327**
Out-of-State w/Tuition Reciprocity	49.1%	50.9%	**697**
Out-of-State w/o Tuition Rec.	60.2%	39.8%	**3,197**
Out-of-State, SREB or UK/UF	77.8%	22.2%	**18**
AGE			
17-24 (Traditional)	49.8%	50.2%	**23,355**
25+ (Nontraditional)	19.7%	80.3%	**2,884**
HIGH SCHOOL			
GED	19.6%	80.4%	**1,802**
Kentucky	47.2%	52.8%	**19,571**
Out-of-state	53.7%	46.3%	**4,866**
Total	**46.5%**	**53.5%**	**26,239**

(407 students with missing data on one or more of the variables above are excluded from table 4.)

The other large demographic difference in preparation level was between traditional and nontraditional students, with nontraditional students being much less prepared for college-level study. This can be seen along three dimensions, comparing part-time and full-time students, traditional college-age and adult students, and GED holders to high school graduates. Part-time, adult and GED-holding students each made up a small minority of entering, degree-seeking students, but each category required remediation at rates near 80 percent, compared to rates near 50 percent for the more traditional students. This finding reaffirms the need to target nontraditional students for academic assistance on campus and through adult education.

Slightly more male students were prepared for college-level work than were female students, and graduates of Kentucky high schools were slightly less well prepared than were graduates of out-of-state high schools. Out-of-state residents were better prepared for college study than were Kentucky resident students. Students receiving tuition reciprocity were similar to Kentucky residents, while out-of-state residents who did not receive tuition reciprocity were substantially better prepared than their peers.

The breakout of student demographics and preparation by institution is given in the appendix under Table 4. The same demographic patterns seen at the aggregate level persist across all nine institutions. KCTCS and KSU both have high rates of underprepared students across the board, so there is less variation by demographic characteristic at these institutions. Similarly, UK and the University of Louisville (U of L) are the most selective institutions, have the lowest rates of students needing remediation in general, and have less variation in preparation level by student characteristic.

Preparation Levels of Recent Graduates of Kentucky High Schools

What about recent graduates of Kentucky high schools? Tables 5 - 8 present the same information given in tables 1-4, but for the subset of students who graduated from Kentucky high schools in 2001 or 2002. These tables show that first-time students who were recent products of Kentucky's P-12 system were better prepared than first-time students as a whole. Slightly fewer were underprepared in at least one subject, 48 percent compared to 54 percent, and fewer were underprepared in more than one subject. The comparison table of preparation level by subject is given on page 4 of this report and shows that recent high school graduates were slightly better prepared than their peers in all three subjects. Looking at demographic differences in Table 8, the percent underprepared was lower across the board among recent high school graduates than in the entry cohort as a whole, with the same types of differences between racial-ethnic groups, gender and full and part-time status as seen in the entire entry cohort.

While recent graduates of Kentucky high schools compare favorably to all first-time students, it is important to note that between one-quarter and one-third of recent graduates from Kentucky high schools were not prepared for college-level work in a given subject. Fully half were entering with an educational handicap in at least one subject.

Table 5. Recent Graduates of Kentucky High Schools: Underprepared Students by Institution and Sector, Incoming Class of 2002

		Graduates of Kentucky High Schools in 2001 and 2002 who Entered College in Fall 2002	Preparation level of students	
			Prepared	Underprepared
Two-year public	**KCTCS**	**5,050**	**26.4%**	**73.6%**
Four-year public	**Eastern Kentucky University**	1,351	52.6%	47.4%
	Kentucky State University	106	14.2%	85.8%
	Morehead State University	905	37.2%	62.8%
	Murray State University	854	59.5%	40.5%
	Northern Kentucky University	1,258	42.0%	58.0%
	University of Kentucky	2,877	85.6%	14.4%
	University of Louisville	1,901	77.5%	22.5%
	Western Kentucky University	2,043	53.9%	46.1%
	Sector Total	**11,295**	**63.2%**	**36.8%**
TOTAL		**16,345**	**51.8%**	**48.2%**

Table 6. Recent Graduates of Kentucky High Schools: Underprepared Students by Subject, Institution and Sector

		Graduates of Kentucky High Schools in 2001 and 2002 Who Entered College in Fall 2002	Percent under-prepared in math	Percent under-prepared in reading	Percent under-prepared in English
Two-year public	**KCTCS**	**4,874**	**56.0%**	**41.5%**	**52.7%**
Four-year public	**Eastern Kentucky University**	1,346	35.1%	20.7%	29.5%
	Kentucky State University	95	70.5%	63.2%	83.2%
	Morehead State University	904	48.6%	31.4%	42.7%
	Murray State University	854	22.4%	16.5%	28.0%
	Northern Kentucky University	1,209	41.9%	30.3%	40.2%
	University of Kentucky	2,804	7.7%	5.0%	5.8%
	University of Louisville	1,868	12.6%	7.1%	8.7%
	Western Kentucky University	2,036	33.8%	24.4%	28.9%
	Sector Total	**11,116**	**25.4%**	**17.1%**	**22.5%**
TOTAL		**15,990**	**34.7%**	**24.5%**	**31.7%**

(355 students with missing exam data on one or more of these subjects were excluded from table 6.)

Table 7. Recent Graduates of Kentucky High Schools: Number of Subjects in which Students were Underprepared by Institution and Sector

		Graduates of Kentucky High Schools in 2001 and 2002 Who Entered College in Fall 2002	Number of subjects in which students were underprepared			
			0	1	2	3
Two-year public	**KCTCS**	**4,874**	**26.0%**	**23.8%**	**24.1%**	**26.1%**
Four-year public	**Eastern Kentucky University**	1,346	52.5%	21.0%	15.1%	11.4%
	Kentucky State University	95	10.5%	12.6%	26.3%	50.5%
	Morehead State University	904	37.2%	23.9%	18.0%	20.9%
	Murray State University	854	59.5%	21.3%	12.1%	7.1%
	Northern Kentucky University	1,209	41.0%	23.0%	18.5%	17.5%
	University of Kentucky	2,804	85.3%	11.2%	3.1%	0.4%
	University of Louisville	1,868	77.1%	17.9%	4.3%	0.6%
	Western Kentucky University	2,036	53.8%	19.3%	12.7%	14.1%
	Sector Total	**11,116**	**62.9%**	**18.1%**	**10.3%**	**8.8%**
TOTAL		**15,990**	**51.6%**	**19.8%**	**14.5%**	**14.0%**

(355 students with missing exam data on one or more of these subjects were excluded from table 7.)

Table 8. Recent Graduates of Kentucky High Schools: Preparation Level by Student Demographics

	Preparation level of Graduates of Kentucky High Schools in 2001 and 2002 Who Entered College in Fall 2002		
	Prepared	**Underprepared**	**Total**
GENDER			
Female	50.7%	49.3%	**9,009**
Male	53.2%	46.8%	**7,327**
FULL/PART TIME			
Full time	53.4%	46.6%	**15,430**
Part time	24.5%	75.5%	**906**
RACE			
Nonresident Alien	.	.	**7**
Black, Non-Hispanic	27.9%	72.1%	**1,149**
American Indian or Alaskan Native	40.0%	60.0%	**25**
Asian or Pacific Islander	63.6%	36.4%	**184**
Hispanic	48.3%	51.7%	**118**
White, Non-Hispanic	54.5%	45.5%	**14,234**
Unknown	31.2%	68.8%	**619**
Total	**51.8%**	**48.2%**	**16,336**

(Nine students were missing data on one or more of the variables above and were excluded from table 8.)

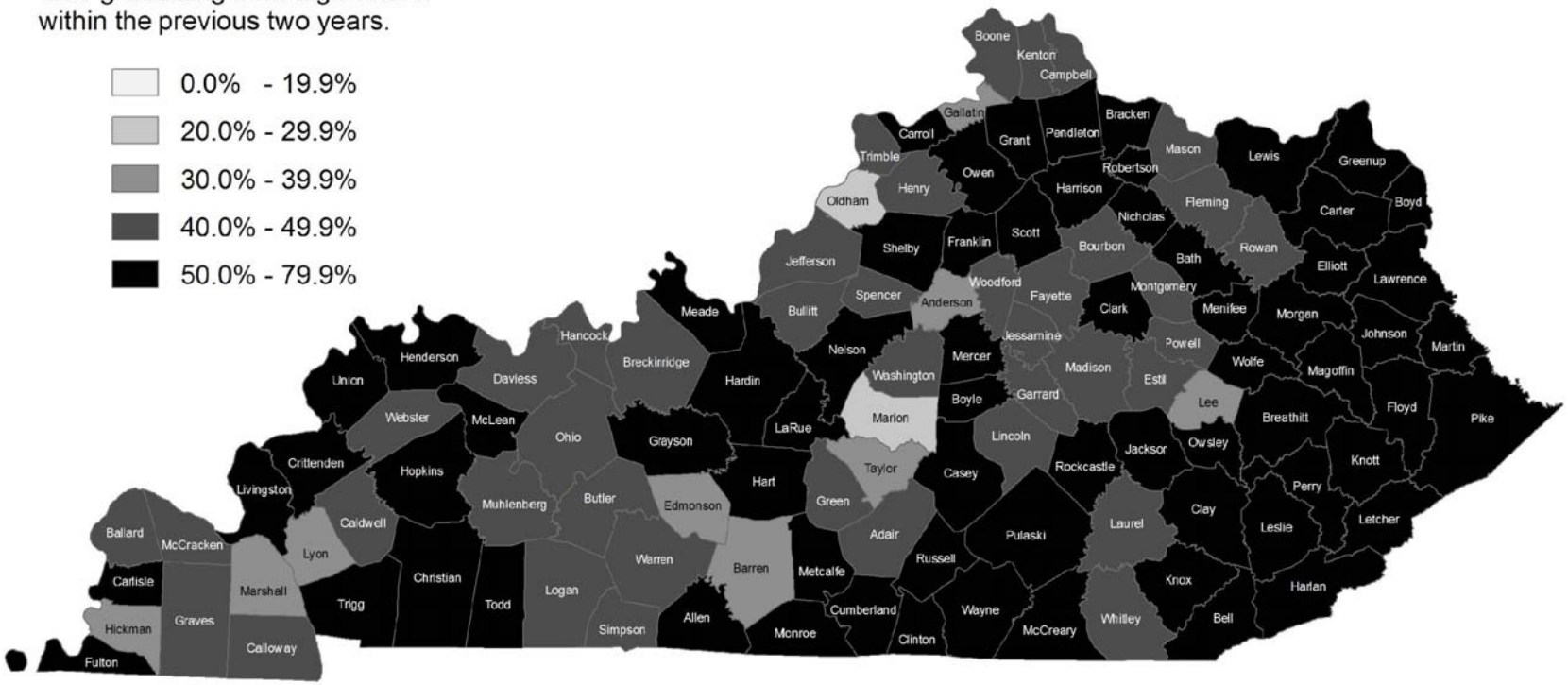
Maps of Preparation Levels by County of Origin

Figures 1 - 5 provide maps that display the county of origin of recent high school graduates who were underprepared for college study. Students who were underprepared in one or more subjects were fairly evenly distributed across the state, with the heaviest concentrations in eastern and southern Kentucky (Figure 1). The greatest proportions of students underprepared in all three subjects also originate from eastern and southern Kentucky (Figure 2). The maps displaying preparation levels for each of the three subjects, math, English and reading, show similar geographic distributions. In math and English, counties from eastern Kentucky sent the highest proportion of underprepared students to college, with a smattering of counties in southern and western parts of the state doing so as well (Figures 3 and 4). Reading was the subject in which students were best prepared, and counties sending large proportions of students underprepared in this subject to college were concentrated in eastern and, to a lesser extent, southern Kentucky.

Figure 1: Percentage of Recent HS Graduates Entering College Underprepared in One or More Subjects, 2002

Students scoring less than 18 on one or more of the ACT exams in mathematics, English, and reading as a percentage of all students taking such exams and entering public postsecondary institutions in the Fall of 2002 after graduating from high school within the previous two years.

- 0.0% - 19.9%
- 20.0% - 29.9%
- 30.0% - 39.9%
- 40.0% - 49.9%
- 50.0% - 79.9%

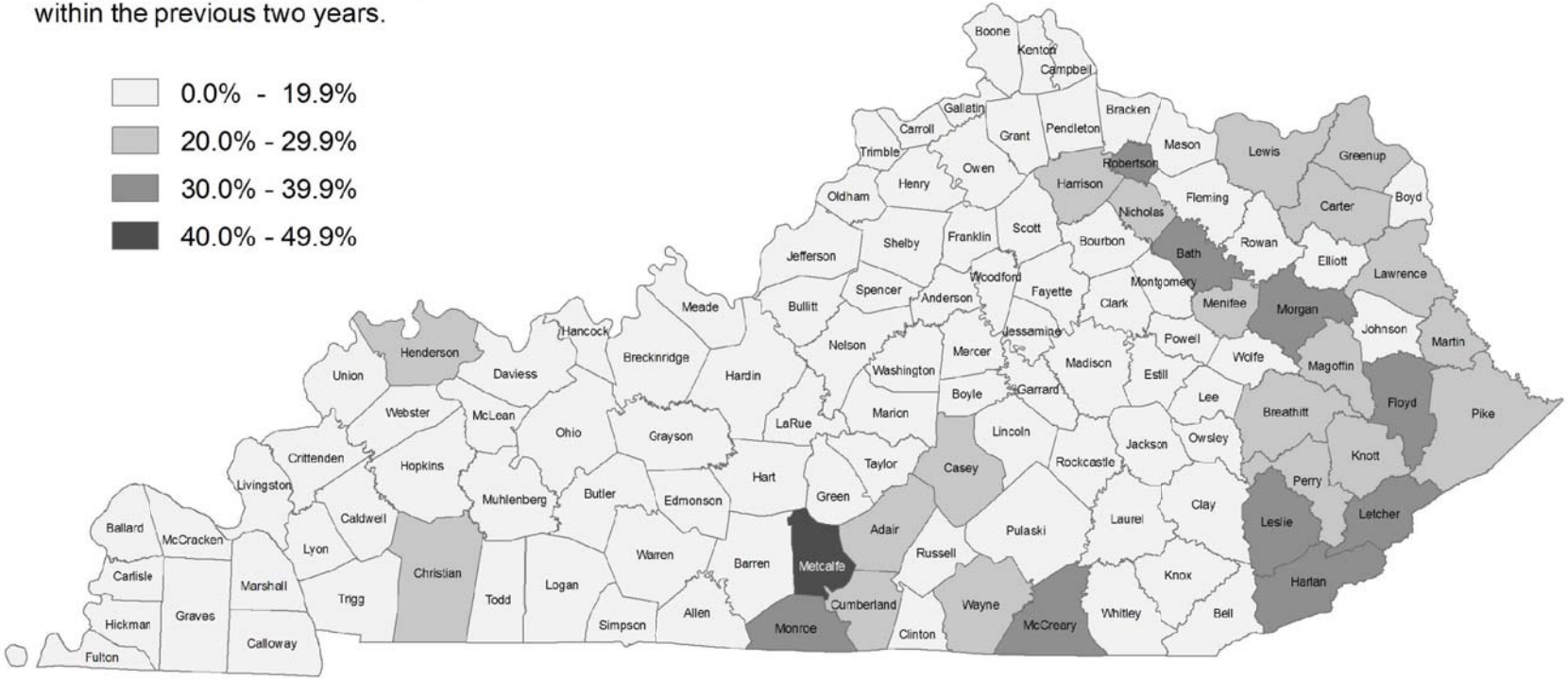


Source: Council on Postsecondary Education Comprehensive Database

Map by Mark Wiljanen

Figure 2: Percentage of Recent HS Graduates Entering College Underprepared in All Three Subjects, 2002

Students scoring less than 18 on all three of the ACT exams in mathematics, English, and reading as a percentage of all students taking such exams and entering public postsecondary institutions in the Fall of 2002 after graduating from high school within the previous two years.



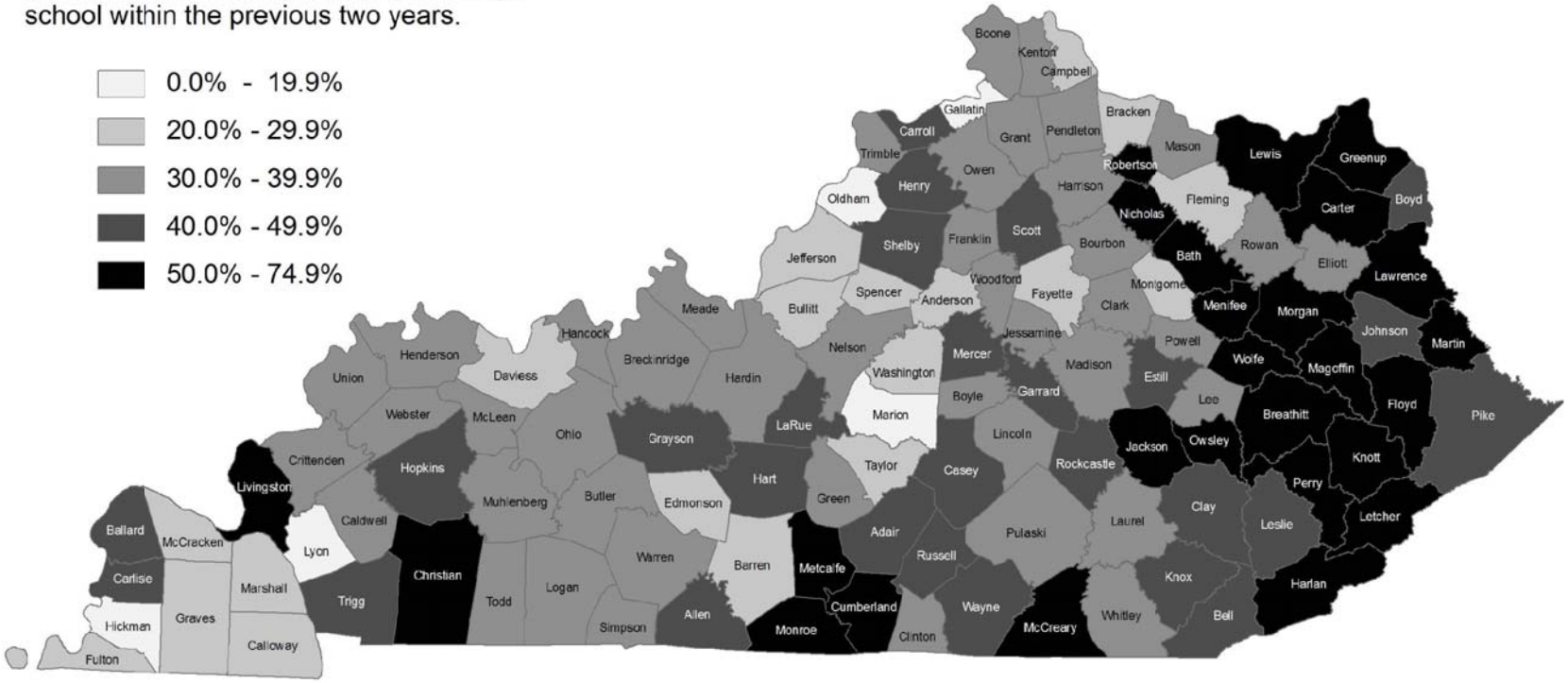
Source: Council on Postsecondary Education Comprehensive Database

Map by Mark Wiljanen

Figure 3: Percentage of Recent HS Graduates Entering College Underprepared in Mathematics, 2002

Students scoring less than 18 on the ACT mathematics exam (or the equivalent on the SAT or on-campus placement exams) as a percentage of all students taking such exams and entering public postsecondary institutions in the Fall of 2002 after graduating from high school within the previous two years.

- 0.0% - 19.9%
- 20.0% - 29.9%
- 30.0% - 39.9%
- 40.0% - 49.9%
- 50.0% - 74.9%



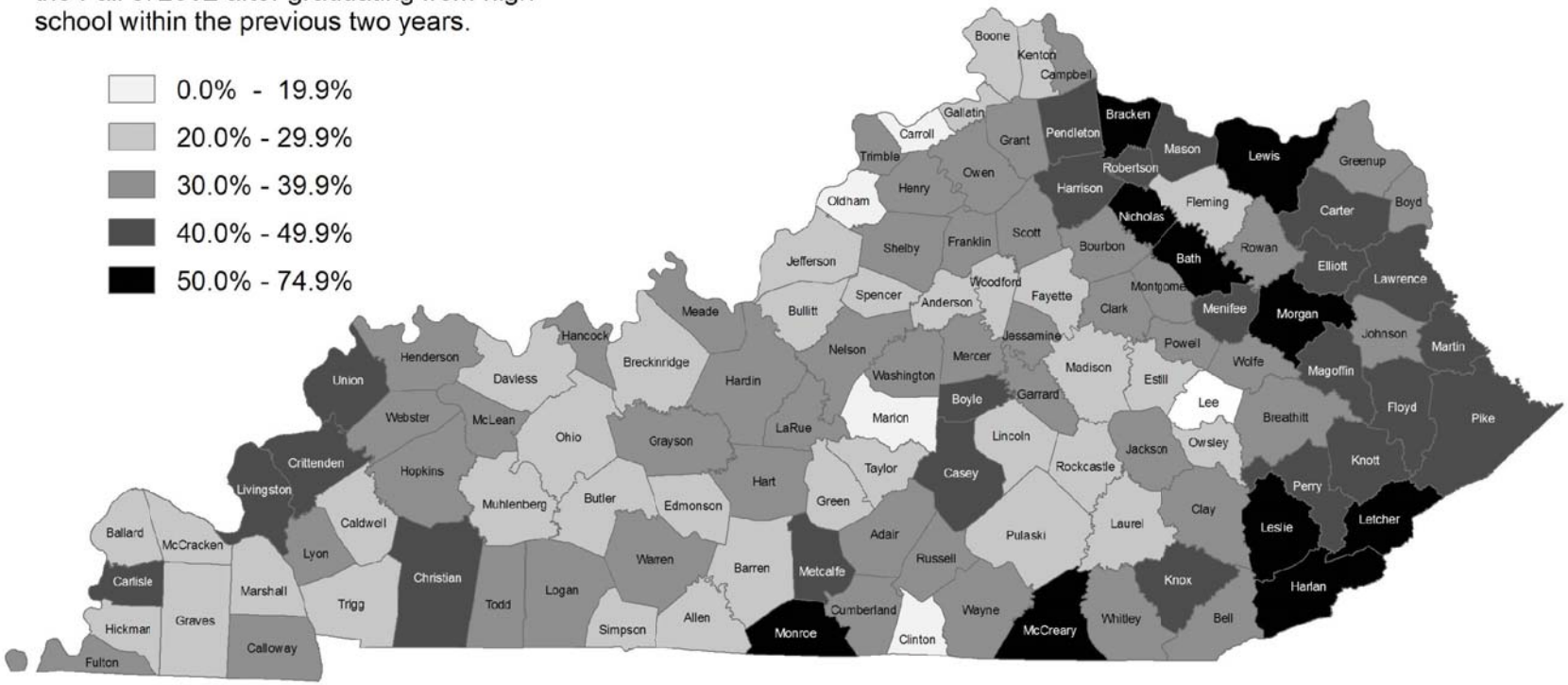
Source: Council on Postsecondary Education Comprehensive Database

Map by Mark Wiljanen

Figure 4: Percentage of Recent HS Graduates Entering College Underprepared in English, 2002

Students scoring less than 18 on the ACT English exam (or the equivalent on the SAT or on-campus placement exams) as a percentage of all students taking such exams and entering public postsecondary institutions in the Fall of 2002 after graduating from high school within the previous two years.

- 0.0% - 19.9%
- 20.0% - 29.9%
- 30.0% - 39.9%
- 40.0% - 49.9%
- 50.0% - 74.9%

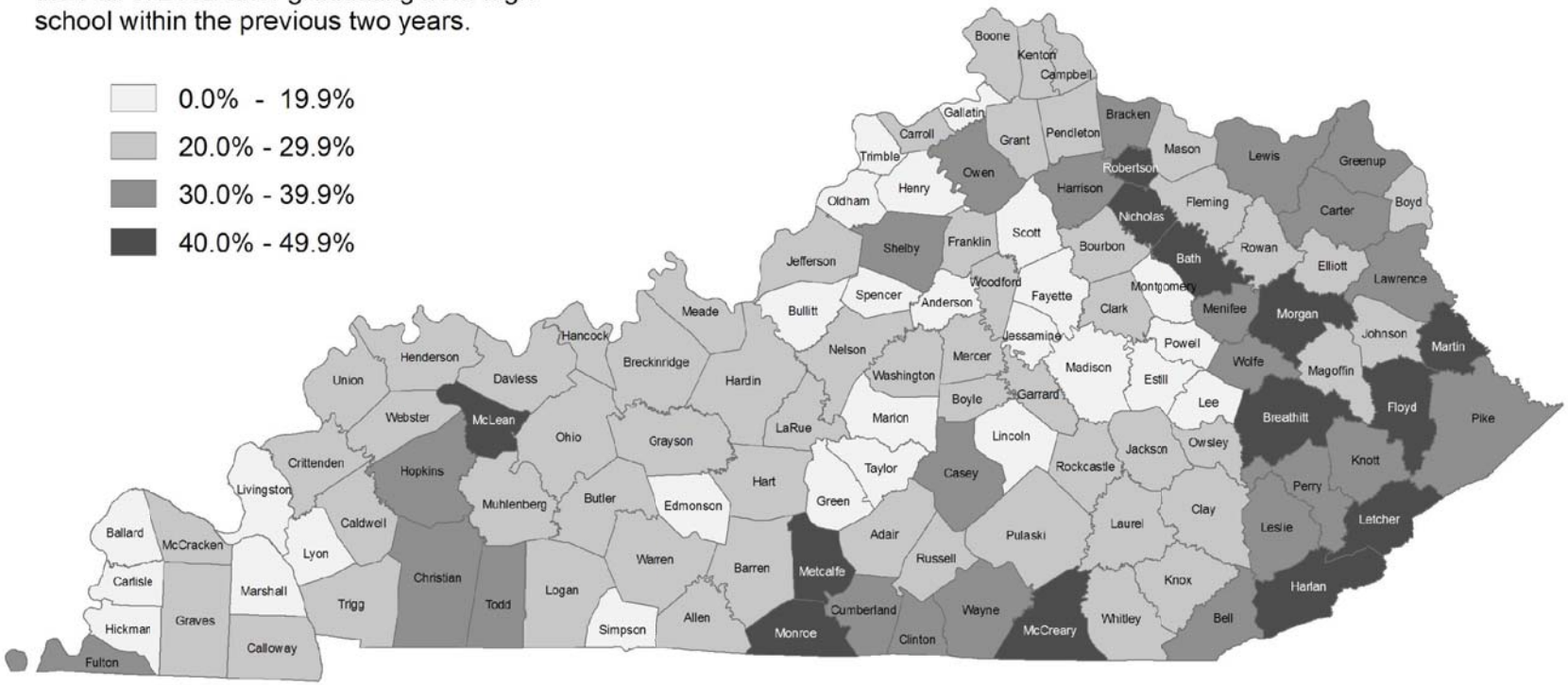


Source: Council on Postsecondary Education Comprehensive Database

Map by Mark Wiljanen

Figure 5: Percentage of Recent HS Graduates Entering College Underprepared in Reading, 2002

Students scoring less than 18 on the ACT reading exam (or equivalent on-campus placement exams) as a percentage of all students taking such exams and entering public postsecondary institutions in the Fall of 2002 after graduating from high school within the previous two years.



Source: Council on Postsecondary Education Comprehensive Database

Map by Mark Wiljanen

Placement Exams, Students Placing Out of Remediation and Students Pursuing Alternate Forms of Remediation

Tables 9 and 10 present information about placement exams and remedial placements. Table 9 gives the number and percent of students taking entrance exams at the four-year schools, showing the proportion of students excluded from this study because they did not take the ACT or the SAT. Except for KSU, the vast majority of students at four-year institutions took one of these entrance exams, all but 2 percent.

Table 9. Students at Four-year Schools: Placement Exams Taken and Remediation at KCTCS

	2002 credential-seeking cohort	Entrance exams taken				Took remedial course at KCTCS
		ACT only	SAT only	Both ACT and SAT	Neither	
Eastern Kentucky University	2,165	90.6%	1.6%	7.7%	0.1%	50
Kentucky State University	376	62.5%	11.4%	9.3%	16.8%	1
Morehead State University	1,428	95.2%	4.1%	.	0.7%	32
Murray State University	1,450	98.7%	0.2%	.	1.1%	18
Northern Kentucky University	1,977	85.7%	10.7%	.	3.5%	19
University of Kentucky	3,684	84.4%	8.5%	6.7%	0.4%	21
University of Louisville	2,260	91.3%	8.7%	.	.	19
Western Kentucky University	3,074	84.3%	4.0%	7.2%	4.5%	55
Total	**16,414**	**88.0%**	**6.0%**	**4.1%**	**1.9%**	**215**

(The total in Table 9 includes 313 students with missing exam data who are excluded from the rest of the study, making up 1.9% of the total as given in the 'neither' column.)

Table 9 also lists the number of students who were enrolled in degree programs at four-year institutions and who took a remedial course at KCTCS during the 2002-03 and 2003-04 academic years. Some four-year schools encourage students to take remedial courses at KCTCS, as the tuition is lower and KCTCS offers a wider selection of remedial coursework in some cases. Eastern and Western sent the most students to KCTCS for remediation during this time period. Remedial courses taken at KCTCS by

students from four-year schools are included in this report as remediation at the student's home four-year institution.

As would be expected at an open enrollment institution, students enrolling in certificate, diploma or degree programs at KCTCS were much less likely to have taken the ACT or SAT than were students enrolling at four-year schools (Table 10, below). Sixty percent of KCTCS' students did not take a college entrance exam, but most of these students (73 percent) took on-campus placement exams. The on-campus placement exams reported here are all standardized exams offered through national testing services, such as Compass and Accuplacer. Of the students who took both college entrance exams and on-campus placement exams, 42 percent successfully placed out of remedial study.

Table 10. Placement Exams and Students Placing Out of Remediation: KCTCS Only

			Took on-campus placement exam		Placed out of remedial courses with on-campus exam	
	Number	Percent	Number	Percent of entrance exam takers	Number	Percent of placement exam takers
Entrance exam						
ACT only	5,049	40.1%	1,045	20.7%	440	42.1%
SAT only	33	0.3%	20	60.6%	.	
Both ACT and SAT	6	0.0%	4	66.7%	3	75.0%
Neither	7,488	59.5%	5,469	73.0%	.	
Total	12,576	100.0%	6,538		443	6.8%

(The total in table 10 includes 2,031 students with missing exam data who were excluded from the rest of the study.)

Were Underprepared Students Retained?

A student's preparation level coming into college is strongly associated with retention. Systemwide, 73 percent of prepared students were retained at their native institution, while only 55 percent of those who were underprepared were retained. The college drop out rate can be seen below as those students who are not retained at their native institution or elsewhere in the system. Underprepared students were twice as likely to drop out of college altogether as were those who were better prepared: 39 percent compared to 20 percent.

Table 11. Retention by Preparation Level of Public Postsecondary Students

Retention in Fall 2003 of First-time Freshmen entering in Fall 2002		Underprepared in one or more subjects		
		Prepared	Under-prepared	Total
Not retained in KY PSE system	**Number**	**2,384**	**5,460**	**7,844**
	Percent	19.5%	38.8%	30%
Retained at KY institution other than where started	**Number**	**862**	**849**	**1,711**
	Percent	7.1%	6.0%	7%
Retained at native institution where started	**Number**	**8,969**	**7,760**	**16,729**
	Percent	73.4%	55.2%	64%
Total	**Number**	**12,215**	**14,069**	**26,284**
	Percent	100%	100%	100%

(362 students with missing retention data were excluded from table 11.)
Note: System-level retention includes students who enrolled at any independent or public postsecondary institution in Kentucky in their second year.

Retention rates for underprepared students by institution are presented in the appendix in Table 11. Retention rates for underprepared students at the four-year institutions ranged fairly narrowly between 57 percent and 67 percent, while KCTCS retained 50 percent of their underprepared students.

Retention rates are also associated with the number of subjects in which students are underprepared. Sixty percent of students who were underprepared in only one subject were retained, compared to 50 percent of those who were underprepared in all three subjects, English, math and reading. Drop-out rates increased to 45 percent for this high-need group.

Table 12. Retention by Number of Subjects Underprepared of Public Postsecondary Students

Retention in Fall 2003 of First-time Freshmen entering in Fall 2002		Number of subjects in which students were underprepared				
		0	1	2	3	Total
Not retained at any KY postsecondary institution	**Number**	**2,132**	**1,810**	**1,713**	**1,715**	**7,370**
	Percent	18.8%	33.1%	39.9%	45.3%	**30%**
Retained at KY institution other than where started	**Number**	**838**	**383**	**273**	**174**	**1,668**
	Percent	7.4%	7.0%	6.4%	4.6%	**7%**
Retained at native institution where started	**Number**	**8,354**	**3,271**	**2,304**	**1,897**	**15,826**
	Percent	73.8%	59.9%	53.7%	50.1%	**64%**
Total	**Number**	**11,324**	**5,464**	**4,290**	**3,786**	**24,864**
	Percent	100%	100%	100%	100%	**100%**

(1,782 students with missing exam or retention data were excluded from table 12.)
Note: System-level retention includes students who enrolled at any independent or public postsecondary institution in Kentucky for their second year.

Differences between the institutions in the retention of students underprepared in all three subjects were large, ranging from 46 percent at Eastern to 87 percent at U of L, although U of L's total number of these students was very low. At KCTCS, 47 percent of students who were underprepared in all three subjects were retained.

Another measure of a school's efforts to retain underprepared students is the size of the "retention gap" between the retention of prepared students and the retention of underprepared students. This retention gap ranged from 10 percent at KCTCS (which has lower retention rates across the board) to 19 percent at Eastern. Among the comprehensive and research universities, Morehead stands out with a low retention gap of 11 percent between underprepared and prepared students.

Did Underprepared Students Take Remedial Courses?

These tables present the remedial course-taking of underprepared students in a few different ways. Tables 13 and 14 give a summary overview of remediation by institution, and Tables 15-17 provide a detailed analysis of underprepared students' course-taking at each institution, including remedial and college level courses.

The overview of remediation in Table 13 shows that most students who are in need of remediation have had some contact with remedial programs at their schools. These results provide a very rough introduction to remediation, as it includes students who may have been remediated in only one of several subjects in which they needed help (Tables 15-17 give the results by subject). What this overview does measure is the extent to which underprepared students had any exposure to remedial education, and how many fell through the cracks and received no remediation.

Table 13. Underprepared Students' Remediation in at Least One Subject

		Students Underprepared in One or More Subjects	Underprepared Percent remediated in at least one subject	
			No	Yes
Two-year public	**KCTCS**	**8,012**	**44.2%**	**55.8%**
Four-year public	**Eastern Kentucky University**	1,035	14.9%	85.1%
	Kentucky State University	267	11.2%	88.8%
	Morehead State University	865	14.1%	85.9%
	Murray State University	557	20.3%	79.7%
	Northern Kentucky University	1,127	33.7%	66.3%
	University of Kentucky	534	58.8%	41.2%
	University of Louisville	523	38.4%	61.6%
	Western Kentucky University	1,398	30.5%	69.5%
	Sector Total	**6,306**	**27.6%**	**72.4%**
TOTAL		**14,318**	**36.9%**	**63.1%**

Eastern, KSU and Morehead had 85-89 percent of their underprepared students take some form of remediation (these remediation percentages include students who took college-level courses with supplemental help). UK had the lowest percent of underprepared students receiving remediation at 41 percent, because UK only offers remedial coursework in math. According to a representative of UK, "students who are under-prepared in writing are instructed to use the writing center as a resource, while students who have difficulties with reading may seek out tutoring." The result for KCTCS does not show a particularly strong engagement with remedial education among

their underprepared students, as only 56 percent took any remediation in their first two years.

Table 14 represents the proportion of students with remedial needs in math, English and reading who were remediated in at least one of these subjects, reflecting and institution's outreach efforts to these high-need students. These percentages are higher, showing that students who are underprepared in all three subjects are indeed getting special attention and being directed toward remedial education. All schools remediated between 85 and 95 percent of their neediest students, except KCTCS and UK. Both UK and UofL had a very small number of students needing remediation in all three subjects.

Table 14. Remediation of Students with the Greatest Needs

		Students underprepared in all three subjects	Percent remediated in at least one subject	
			No	Yes
Two-year public	**KCTCS**	**2,350**	**36.4%**	**63.6%**
Four-year public	**Eastern Kentucky University**	231	5.6%	94.4%
	Kentucky State University	132	9.8%	90.2%
	Morehead State University	244	7.4%	92.6%
	Murray State University	101	12.9%	87.1%
	Northern Kentucky University	305	14.1%	85.9%
	University of Kentucky	16	43.8%	56.3%
	University of Louisville	15	13.3%	86.7%
	Western Kentucky University	392	14.3%	85.7%
	Sector Total	**1,436**	**11.5%**	**88.5%**
TOTAL		**3,786**	**27.0%**	**73.0%**

Tables 15 – 17 give the best, most detailed information on underprepared students' remediation and other course-taking. Each table includes only those students who were underprepared in one of the three core subjects and presents students' course-taking in that subject during their first two years of study. All students who are underprepared in a subject fall into one of four possible categories. In their first two years they either (1) took a remedial course in that subject, (2) took a college-level course with supplemental help in that subject, (3) took a college level course in that subject without first being remediated, or (4) did not take a course in that subject, either remedial or college-level.

These tables help us answer three important questions. Are retained students taking remedial coursework? Are students who do not take remedial courses taking college-level work instead, putting them at greater risk of failure? Are students who don

not take remedial courses avoiding taking any courses in the subject? The answers to these questions show how well institutions enforced the mandatory placement policy by ensuring that their underprepared students took remedial courses or college-level courses with supplemental help. It also tells us if students are avoiding taking courses in these subjects altogether, handicapping themselves by not catching up on the fundamental reading, writing and math skills that are needed in any college-level course.

In assessing these numbers, it is important to note that the lack of on-campus placement exam data from the four-year institutions inflates the numbers of underprepared students who took a college level course without first being remediated. This is because some of the students classified as underprepared in this report based on their ACT or SAT score may have placed out of remediation through an on-campus placement exam, and would actually have been exempt from the mandatory placement policy. Placement exam data has been requested from the four-year institutions for future iterations of this report to correct this problem.

Underprepared students' course-taking is presented by retention at the institutional and systemwide level. These results are broken out by retention because retained students have had the longest time in which to take courses, making the remediation of these students the best standard by which to measure an institution's remediation program. If a student has not been remediated by the end of their second year, they will have lost a good deal of ground in their progress toward a degree.

It is also important to factor in retention because there is a circular cause-and-effect relationship between retention and remediation. It is likely that students who are remediated are more likely to be retained. But it is also likely that students who are retained are more likely to be remediated simply because they have had more semesters in school in which to take remedial courses. The data used in this report does not permit the teasing out of these effects, although attempts may be made to do so in future reports. For now, all remediation results are shown by retention status to preserve the differences between students who attended college for one year or less and those who attended for two.

Looking first at Table 15, systemwide, only 67 percent of underprepared students in math who were retained were remediated in math. Twelve percent took college-level math without being remediated (and may have actually placed out of remediation), and 21 percent did not take any math courses during their first two years. This analysis is presented for each institution in the appendix under Table 15. There are considerable differences in math remediation by institution, ranging from 95 percent to 69 percent among the four-year institutions, and dropping to 54 percent at KCTCS. Eastern and Morehead had the best remediation results with a 95 percent math remediation rate among retained students. UofL's rate is close behind at 89 percent. Both Northern and KSU had remediation rates in the low 80 percent range, with most of their nonremediated students not taking math at all. UK, Murray and Western remediated 69-70 percent of these students, with the bulk of those who were not remediated taking college level math anyway. Looking at math avoidance, Morehead, KSU, UK, Western and Northern had below 15 percent of their underprepared students in math not taking any math courses. At KCTCS, almost one-third of retained students who were underprepared in math avoided taking a math course during their first two

years. This may be due in part to the high proportion of part-time students at KCTCS, as part-time students may take longer to enroll in the remedial courses they need.

Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

All KY Public Institutions			Underprepared in math	Percent
Not retained at any KY PSE institution	**Not retained at native institution**	**Did not take subject**		
		Took at college level without remediation*	198	4.8%
		Took at college level with supplemental help	4	0.1%
		Took remedial course	2,125	51.0%
		Subtotal	**4,165**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Did not take subject**	130	22.4%
		Took at college level without remediation*	25	4.3%
		Took remedial course	425	73.3%
		Subtotal	**580**	**100.0%**
	Retained at native institution	**Did not take subject**	1,187	21.1%
		Took at college level without remediation*	660	11.7%
		Took at college level with supplemental help	14	0.2%
		Took remedial course	3,769	66.9%
		Subtotal	**5,630**	**100.0%**
Total students underprepared in math		**Did not take subject**	3,155	30.4%
		Took at college level without remediation*	883	8.5%
		Took at college level with supplemental help	18	0.2%
		Took remedial course	6,319	60.9%
		Total	**10,375**	**100.0%**

* This category includes an unknown number of students who placed out of remediation after taking an on-campus placement exam.

Table 16 presents the English courses taken by students who were underprepared in English. Systemwide, 56 percent of these students who were retained were also remediated. One-quarter took a college-level course without remediation (and may have actually placed out of remediation) and only 15 percent did not take any English course. Summarizing the institutional tables in the appendix, institutional variation is on this measure is large. Morehead has the highest remediation rate with 94 percent and Eastern, Western and KSU are also doing well at 80-84 percent (including supplemented courses). Both Northern and KCTCS remediated a majority of their underprepared students in English, with remediation rates of 61 percent and 54 percent respectively. Murray had the lowest remediation rate in English at 39 percent, with the majority of their retained, underprepared students taking college-level English without remediation, although it is likely that many of these students placed out of remediation. Neither UK nor U of L offer remedial courses in English. UK refers these students to their writing center, and UofL provides college-level courses with supplemental help rather than remedial courses. Unfortunately, UofL's supplemented courses are not distinguishable from regular college courses in the data used for this report, but this problem will be fixed in later reports.

Comparing math and English overall, it appears that remediation rates in English are lower than in math, both institutionally and statewide. And despite the fact that math remediation is offered at all of Kentucky's public institutions so statewide rates would be expected to be higher, students who were underprepared in math were more likely to avoid taking math classes than were underprepared students in English to avoid English classes. Students who were underprepared in English either took remedial courses or took college-level courses without remediation; very few of them avoided taking English.

Table 16. Students Underprepared in English: English Courses Taken by Retention Status

All KY Public Institutions			Underprepared in English	Percent
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	1,447	38.9%
		Took at college level without remediation*	483	13.0%
		Took at college level with supplemental help	40	1.1%
		Took remedial course	1,748	47.0%
		Subtotal	**3,718**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Did not take subject**	106	20.7%
		Took at college level without remediation*	142	27.8%
		Took at college level with supplemental help	13	2.5%
		Took remedial course	250	48.9%
		Subtotal	**511**	**100.0%**
	Retained at native institution	**Did not take subject**	738	15.4%
		Took at college level without remediation*	1,208	25.2%
		Took at college level with supplemental help	149	3.1%
		Took remedial course	2,704	56.3%
		Subtotal	**4,799**	**100.0%**
Total students underprepared in English		**Did not take subject**	2,291	25.4%
		Took at college level without remediation*	1,833	20.3%
		Took at college level with supplemental help	202	2.2%
		Took remedial course	4,702	52.1%
		Total	**9,028**	**100.0%**

* This category includes an unknown number of students who placed out of remediation after taking an on-campus placement exam.

As there are no college-level courses in reading, per se, Table 17 only presents information on remedial course-taking by students who were underprepared in reading. Overall, a little over half (52 percent) of retained, underprepared students took remedial reading courses. The highest remediation rates were at Morehead (96 percent), Western (83 percent), Eastern (82 percent) and Northern (74 percent). KSU and Murray were in the middle, having remediated 58-61 percent of their retained students who were underprepared in reading. KCTCS and UofL both had low remediation rates of 36 percent and 32 percent respectively. UK does not offer remedial courses in reading. Their underprepared students in reading are encouraged to work with reading tutors.

Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

All KY Public Institutions			Underprepared in reading	Percent
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	1,706	61.0%
		Took remedial course	1,090	39.0%
		Subtotal	**2,796**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**No remedial course**	201	52.3%
		Took remedial course	183	47.7%
		Subtotal	**384**	**100.0%**
	Retained at native institution	**No remedial course**	1,691	48.1%
		Took remedial course	1,823	51.9%
		Subtotal	**3,514**	**100.0%**
Total students underprepared in reading		**No remedial course**	3,598	53.7%
		Took remedial course	3,096	46.3%
		Total	**6,694**	**100.0%**

How Do Preparation Level and Remediation Affect Student Outcomes?

When planning this study, CPE staff had hoped to include two additional student outcome measures, GPA at the end of the second year and grades in college-level courses in math and English. Unfortunately, the lack of on-campus placement exam data prevents this analysis at this time, as is detailed below. CPE is working with the institutions to correct this data problem, and hopes to conduct this analysis in the future.

Without complete, accurate data on students' on-campus placement tests, it cannot completely be determined which students need remediation. In the data available for this report, if students take on-campus placement exams and place out of remediation, they would be wrongly categorized as being underprepared but not

remediated. But how do we know if this has happened? If some of these underprepared students had actually placed out of remediation, one would expect these students to have been "less underprepared" and to have higher ACT scores than those who did not place out of remediation with on-campus exams. So, if underprepared students who were *not* remediated had higher ACT scores than underprepared students who *were* remediated, it is more plausible that many of the nonremediated students actually did place out of remediation.

This hypothesis was tested by examining differences in ACT scores between underprepared students who were remediated and those who were not remediated. Looking at the correlation between ACT score and remediation among underprepared students, slight to moderate, statistically significant correlations were found at some schools and in some subjects (correlation results available upon request). These correlations show that at these institutions, students are less likely to be remediated as their ACT scores increase from 10 to 17. Other schools and subjects did not have statistically significant correlations and there were no correlations that would contradict this hypothesis. In summary, it appears likely that a substantial number of underprepared, unremediated students had actually placed out of remediation, conflating these two categories and preventing the analysis of the affect of remediation on student outcomes at this time.

Campus Practices and Programs

A quantitative report can give only a partial view of institutions' efforts to meet the developmental needs of their underprepared students. Some institutions submitted additional information about their remedial education programs to include in this report, information which is included here and which provides some important context to the numbers reported above.

A representative of Northern Kentucky University describes how their applicants are screened for additional academic attention. "At NKU, for example, every applicant is initially screened by admissions staff for pre-college curriculum qualifications and ACT scores. Records for students who are not clearly qualified for full 'regular' admission are referred to the Academic Advising and Resource Center."

The University of Louisville has changed their remediation program in recent years to emphasize college-level courses with supplemental help. They write, "UofL has 'enhanced' or supplemented classes whereby students who would normally be enrolled in remedial courses may register into an entry level general education course that meets more frequently and has mandatory attendance requirements...UofL enforces our supplemented study program by a thorough review of the academic registration of all students who are reported as underprepared in the supplemented areas. We contact those who have mis-registered in their first term, and we make administrative changes to insure their registration in the appropriate supplemented course. We are attempting to extend this supplement by connecting these courses with additional support through learning communities with associated academic orientation classes (GEN101) and with other resources to assist these students in their successful transition to college."

Institutions also described some of the difficulties inherent in providing remedial education. Students who require remediation are often surprised that they were not

adequately prepared for college level course work in high school and resent this fact. Also, some students may avoid taking remedial courses because this coursework is not credit bearing. Underprepared students can spend a considerable amount of time in remediation, especially if they are underprepared in more than one subject, time that significantly delays their academic progress.

Conclusions

In summary, substantial numbers of students who entered Kentucky's public postsecondary system in 2002 entered with remedial needs. Between one-quarter and two-fifths of entering students required remediation in math, English or reading, and fully half required remediation in at least one of these subjects. Rates were lower for recent graduates of Kentucky's high schools, but still ranged between one-quarter and one-third. Also, this report suggests that being underprepared for college level work is associated with not being retained to the second year. These numbers underscore the need for strong remedial and supplemental programs at the postsecondary level to help all students achieve their education goals. These numbers also argue for improved college preparation at the P-12 level and in adult education.

How well are these students being remediated at the postsecondary level? This study suggests that only a small majority of students who entered college in 2002 needing to be remediated actually were remediated during their first two years. Some of the students who were not remediated dropped out of college and others avoided taking any courses in the subjects in which they needed remediation. Because of limitations in the data, this report overestimates the size of this problem, yet remediation rates are low enough at some schools to suggest that there is room for improvement from these 2002 rates.

It is important to note that this report encompasses students who started college in fall 2002, and that some institutions have made substantial changes in their remediation polices since that time. Also, CPE has been working to improve its data collection concerning remediation and other forms of academic supplementation and will continue to do so. It is the intent of CPE to continue to move forward with the evaluation of remedial polices and programs, and to look in more depth at the outcomes of remediation and other forms of academic support. The Council is committed to pursuing excellence in the provision of services to academically at-risk students and accountability is essential to this endeavor.

Underprepared Students in Kentucky:
A First Look at the 2001 Mandatory Placement Policy

Kentucky Council on Postsecondary Education
November, 2005

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Table 4. Preparation Level by Demographics

Eastern Kentucky University

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	53.7%	46.3%	**1,296**
Male	50.0%	50.0%	**864**
FULL/PART TIME			
Full time	52.2%	47.8%	**2,160**
RACE			
Nonresident Alien	.	.	**.**
Black, Non-Hispanic	14.9%	85.1%	**87**
American Indian or Alaskan Native	.	.	**.**
Asian or Pacific Islander	63.6%	36.4%	**22**
Hispanic	23.1%	76.9%	**13**
White, Non-Hispanic	54.5%	45.5%	**1,971**
Unknown	36.4%	63.6%	**55**
RESIDENCY			
In-State	48.3%	51.7%	**1,799**
Out-of-State w/o Tuition Rec.	71.7%	28.3%	**361**
AGE			
17-24 (Traditional)	53.8%	46.2%	**2,085**
25+ (Nontraditional)	9.3%	90.7%	**75**
HIGH SCHOOL			
GED	9.3%	90.7%	**75**
Kentucky	50.1%	49.9%	**1,695**
Out-of-state	69.5%	30.5%	**390**
All	**52.2%**	**47.8%**	**2,160**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

Kentucky State University

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	14.9%	85.1%	**175**
Male	14.5%	85.5%	**138**
FULL/PART TIME			
Full time	15.0%	85.0%	**300**
Part time	7.7%	92.3%	**13**
RACE			
Black, Non-Hispanic	15.9%	84.1%	**251**
Asian or Pacific Islander	.	.	**.**
Hispanic	.	.	**.**
White, Non-Hispanic	9.8%	90.2%	**51**
Unknown	.	.	**.**
RESIDENCY			
In-State	14.0%	86.0%	**136**
Out-of-State w/o Tuition Rec.	15.3%	84.7%	**177**
AGE			
17-24 (Traditional)	14.6%	85.4%	**294**
25+ (Nontraditional)	15.8%	84.2%	**19**
HIGH SCHOOL			
GED	25.0%	75.0%	**12**
Kentucky	13.0%	87.0%	**115**
Out-of-state	15.1%	84.9%	**186**
All	**14.7%**	**85.3%**	**313**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

Morehead State University

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	39.5%	60.5%	**777**
Male	38.9%	61.1%	**633**
FULL/PART TIME			
Full time	40.1%	59.9%	**1,373**
Part time	5.4%	94.6%	**37**
RACE			
Nonresident Alien	.	.	**.**
Black, Non-Hispanic	15.4%	84.6%	**65**
American Indian or Alaskan Native	.	.	**.**
Asian or Pacific Islander	.	.	**.**
Hispanic	30.8%	69.2%	**13**
White, Non-Hispanic	40.3%	59.7%	**1,323**
RESIDENCY			
In-State	34.9%	65.1%	**1,048**
Out-of-State w/o Tuition Rec.	51.7%	48.3%	**362**
AGE			
17-24 (Traditional)	40.3%	59.7%	**1,360**
25+ (Nontraditional)	10.0%	90.0%	**50**
HIGH SCHOOL			
GED	13.0%	87.0%	**46**
Kentucky	35.8%	64.2%	**987**
Out-of-state	51.5%	48.5%	**377**
All	**39.2%**	**60.8%**	**1,410**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

Murray State University

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	62.6%	37.4%	**851**
Male	58.9%	41.1%	**574**
FULL/PART TIME			
Full time	62.1%	37.9%	**1,395**
Part time	16.7%	83.3%	**30**
RACE			
Nonresident Alien	20.0%	80.0%	**10**
Black, Non-Hispanic	26.9%	73.1%	**93**
American Indian or Alaskan Native	.	.	**.**
Asian or Pacific Islander	.	.	**.**
Hispanic	.	.	**.**
White, Non-Hispanic	64.0%	36.0%	**1,294**
Unknown	.	.	**.**
RESIDENCY			
In-State	56.5%	43.5%	**931**
Out-of-State w/Tuition Reciprocity	46.8%	53.2%	**94**
Out-of-State w/o Tuition Rec.	75.3%	24.8%	**400**
AGE			
17-24 (Traditional)	62.5%	37.5%	**1,383**
25+ (Nontraditional)	14.3%	85.7%	**42**
HIGH SCHOOL			
GED	12.5%	87.5%	**24**
Kentucky	58.0%	42.0%	**893**
Out-of-state	68.9%	31.1%	**508**
All	**61.1%**	**38.9%**	**1,425**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

University of Kentucky

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	84.9%	15.1%	**1,979**
Male	86.1%	13.9%	**1,686**
FULL/PART TIME			
Full time	85.5%	14.5%	**3,639**
Part time	84.6%	15.4%	**26**
RACE			
Nonresident Alien	66.7%	33.3%	**21**
Black, Non-Hispanic	51.6%	48.4%	**159**
American Indian or Alaskan Native	.	.	**.**
Asian or Pacific Islander	72.4%	27.6%	**58**
Hispanic	83.3%	16.7%	**30**
White, Non-Hispanic	87.4%	12.6%	**3,330**
Unknown	85.9%	14.1%	**64**
RESIDENCY			
In-State	85.6%	14.4%	**2,983**
Out-of-State w/o Tuition Rec.	85.2%	14.8%	**669**
Out-of-State, SREB or UK/UF	76.9%	23.1%	**13**
AGE			
17-24 (Traditional)	85.5%	14.5%	**3,662**
25+ (Nontraditional)	.	.	**.**
HIGH SCHOOL			
GED	.	.	**.**
Kentucky	85.6%	14.4%	**2,896**
Out-of-state	84.9%	15.1%	**767**
All	**85.5%**	**14.5%**	**3,665**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

University of Louisville

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	74.3%	25.7%	**1,159**
Male	79.5%	20.5%	**1,097**
FULL/PART TIME			
Full time	77.2%	22.8%	**2,165**
Part time	67.0%	33.0%	**91**
RACE			
Nonresident Alien	75.0%	25.0%	**20**
Black, Non-Hispanic	58.0%	42.0%	**295**
American Indian or Alaskan Native	.	.	**.**
Asian or Pacific Islander	75.0%	25.0%	**68**
Hispanic	76.7%	23.3%	**30**
White, Non-Hispanic	80.1%	19.9%	**1,836**
Unknown	.	.	**.**
RESIDENCY			
In-State	77.0%	23.0%	**1,983**
Out-of-State w/Tuition Reciprocity	84.9%	15.1%	**166**
Out-of-State w/o Tuition Rec.	60.4%	39.6%	**106**
Out-of-State, SREB or UK/UF	.	.	**.**
AGE			
17-24 (Traditional)	76.9%	23.1%	**2,239**
25+ (Nontraditional)	64.7%	35.3%	**17**
HIGH SCHOOL			
GED	52.9%	47.1%	**17**
Kentucky	77.2%	22.8%	**1,934**
Out-of-state	75.7%	24.3%	**305**
All	**76.8%**	**23.2%**	**2,256**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

Western Kentucky University

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	54.7%	45.3%	**1,681**
Male	49.2%	50.8%	**1,254**
FULL/PART TIME			
Full time	53.4%	46.6%	**2,840**
Part time	21.1%	78.9%	**95**
RACE			
Nonresident Alien	41.7%	58.3%	**12**
Black, Non-Hispanic	16.8%	83.2%	**298**
American Indian or Alaskan Native	.	.	**.**
Asian or Pacific Islander	65.5%	34.5%	**29**
Hispanic	29.6%	70.4%	**27**
White, Non-Hispanic	56.7%	43.3%	**2,528**
Unknown	54.3%	45.7%	**35**
RESIDENCY			
In-State	51.4%	48.6%	**2,253**
Out-of-State w/Tuition Reciprocity	54.3%	45.7%	**164**
Out-of-State w/o Tuition Rec.	55.8%	44.2%	**514**
Out-of-State, SREB or UK/UF	.	.	**.**
AGE			
17-24 (Traditional)	53.1%	46.9%	**2,872**
25+ (Nontraditional)	17.5%	82.5%	**63**
HIGH SCHOOL			
GED	31.3%	68.8%	**64**
Kentucky	52.3%	47.7%	**2,152**
Out-of-state	54.4%	45.6%	**719**
All	**52.4%**	**47.6%**	**2,935**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

Northern Kentucky University

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	38.3%	61.7%	**1,089**
Male	44.4%	55.6%	**818**
FULL/PART TIME			
Full time	42.9%	57.1%	**1,745**
Part time	19.1%	80.9%	**162**
RACE			
Nonresident Alien	.	.	**.**
Black, Non-Hispanic	20.5%	79.5%	**127**
American Indian or Alaskan Native	.	.	**.**
Asian or Pacific Islander	41.2%	58.8%	**17**
Hispanic	25.0%	75.0%	**12**
White, Non-Hispanic	42.5%	57.5%	**1,738**
RESIDENCY			
In-State	39.5%	60.5%	**1,487**
Out-of-State w/Tuition Reciprocity	33.3%	66.7%	**75**
Out-of-State w/o Tuition Rec.	48.4%	51.6%	**345**
AGE			
17-24 (Traditional)	41.6%	58.4%	**1,840**
25+ (Nontraditional)	22.4%	77.6%	**67**
HIGH SCHOOL			
GED	18.2%	81.8%	**33**
Kentucky	40.0%	60.0%	**1,370**
Out-of-state	44.8%	55.2%	**504**
All	**40.9%**	**59.1%**	**1,907**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 4. Preparation Level by Demographics

KCTCS

	Preparation level of students		
	Prepared	**Under-prepared**	**Total**
GENDER			
Female	22.1%	77.9%	**5,954**
Male	26.2%	73.8%	**4,214**
FULL/PART TIME			
Full time	24.9%	75.1%	**7,556**
Part time	20.8%	79.2%	**2,612**
RACE			
Nonresident Alien	20.0%	80.0%	**15**
Black, Non-Hispanic	8.6%	91.4%	**778**
American Indian or Alaskan Native	23.3%	76.7%	**30**
Asian or Pacific Islander	18.3%	81.7%	**71**
Hispanic	21.0%	79.0%	**100**
White, Non-Hispanic	25.7%	74.3%	**8,188**
Unknown	21.5%	78.5%	**986**
RESIDENCY			
In-State	23.9%	76.1%	**9,707**
Out-of-State w/Tuition Reciprocity	21.7%	78.3%	**198**
Out-of-State w/o Tuition Rec.	23.6%	76.4%	**263**
AGE			
17-24 (Traditional)	25.2%	74.8%	**7,620**
25+ (Nontraditional)	19.9%	80.1%	**2,548**
HIGH SCHOOL			
GED	19.5%	80.5%	**1,529**
Kentucky	24.6%	75.4%	**7,529**
Out-of-state	24.4%	75.6%	**1,110**
All	**23.8%**	**76.2%**	**10,168**

Note: Underprepared students were underprepared in one or more of the following subjects: math, English or reading.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

Eastern Kentucky University

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**210**	**349**	**559**
		Percent	18.7%	33.8%	26%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**77**	**102**	**179**
		Percent	6.9%	9.9%	8%
	Retained at native institution	**Number**	**836**	**582**	**1,418**
		Percent	74.4%	56.3%	66%
Total		**Number**	**1,123**	**1,033**	**2,156**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

Kentucky State University

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**13**	**89**	**102**
		Percent	28.3%	34.0%	33%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**1**	**10**	**11**
		Percent	2.2%	3.8%	4%
	Retained at native institution	**Number**	**32**	**163**	**195**
		Percent	69.6%	62.2%	63%
Total		**Number**	**46**	**262**	**308**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

Morehead State University

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**106**	**256**	**362**
		Percent	19.2%	29.6%	26%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**38**	**66**	**104**
		Percent	6.9%	7.6%	7%
	Retained at native institution	**Number**	**407**	**543**	**950**
		Percent	73.9%	62.8%	67%
Total		**Number**	**551**	**865**	**1,416**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

Murray State University

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**188**	**182**	**370**
		Percent	21.5%	32.9%	26%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**54**	**47**	**101**
		Percent	6.2%	8.5%	7%
	Retained at native institution	**Number**	**634**	**325**	**959**
		Percent	72.4%	58.7%	67%
Total		**Number**	**876**	**554**	**1,430**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

University of Kentucky

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**386**	**103**	**489**
		Percent	12.3%	19.3%	13%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**277**	**82**	**359**
		Percent	8.8%	15.4%	10%
	Retained at native institution	**Number**	**2,470**	**349**	**2,819**
		Percent	78.8%	65.4%	77%
Total		**Number**	**3,133**	**534**	**3,667**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

University of Louisville

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**249**	**127**	**376**
		Percent	14.3%	24.3%	17%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**118**	**46**	**164**
		Percent	6.8%	8.8%	7%
	Retained at native institution	**Number**	**1,370**	**350**	**1,720**
		Percent	78.9%	66.9%	76%
Total		**Number**	**1,737**	**523**	**2,260**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

Western Kentucky University

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**231**	**386**	**617**
		Percent	15.0%	27.7%	21%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**111**	**111**	**222**
		Percent	7.2%	8.0%	8%
	Retained at native institution	**Number**	**1,194**	**899**	**2,093**
		Percent	77.7%	64.4%	71%
Total		**Number**	**1,536**	**1,396**	**2,932**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

Northern Kentucky University

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**179**	**428**	**607**
		Percent	22.9%	38.0%	32%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**33**	**57**	**90**
		Percent	4.2%	5.1%	5%
	Retained at native institution	**Number**	**568**	**642**	**1,210**
		Percent	72.8%	57.0%	63%
Total		**Number**	**780**	**1,127**	**1,907**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Table 11. Retention by Preparation Level

KCTCS

			Underprepared in one or more subjects		
			Prepared	**Underprepared**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**822**	**3,540**	**4,362**
		Percent	33.8%	45.5%	43%
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**153**	**328**	**481**
		Percent	6.3%	4.2%	5%
	Retained at native institution	**Number**	**1,458**	**3,907**	**5,365**
		Percent	59.9%	50.3%	53%
Total		**Number**	**2,433**	**7,775**	**10,208**
		Percent	100%	100%	100%

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
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Table 12. Retention by Number of Subjects Underprepared

Eastern Kentucky University

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**197**	**120**	**123**	**104**	**544**
		Percent	18.0%	25.9%	37.2%	45.0%	**26%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**76**	**52**	**30**	**20**	**178**
		Percent	6.9%	11.2%	9.1%	8.7%	**8%**
	Retained at native institution	**Number**	**823**	**292**	**178**	**107**	**1,400**
		Percent	75.1%	62.9%	53.8%	46.3%	**66%**
Total		**Number**	**1,096**	**464**	**331**	**231**	**2,122**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
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Table 12. Retention by Number of Subjects Underprepared

Kentucky State University

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**12**	**12**	**25**	**45**	**94**
		Percent	34.3%	36.4%	37.9%	34.1%	**35%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**1**	**2**	**4**	**4**	**11**
		Percent	2.9%	6.1%	6.1%	3.0%	**4%**
	Retained at native institution	**Number**	**22**	**19**	**37**	**83**	**161**
		Percent	62.9%	57.6%	56.1%	62.9%	**61%**
Total		**Number**	**35**	**33**	**66**	**132**	**266**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.

Table 12. Retention by Number of Subjects Underprepared

Morehead State University

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**90**	**98**	**67**	**81**	**336**
		Percent	17.8%	27.1%	27.7%	33.2%	**25%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**38**	**20**	**26**	**19**	**103**
		Percent	7.5%	5.5%	10.7%	7.8%	**8%**
	Retained at native institution	**Number**	**379**	**244**	**149**	**144**	**916**
		Percent	74.8%	67.4%	61.6%	59.0%	**68%**
Total		**Number**	**507**	**362**	**242**	**244**	**1,355**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
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Table 12. Retention by Number of Subjects Underprepared

Murray State University

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**186**	**85**	**59**	**37**	**367**
		Percent	21.3%	29.6%	35.8%	36.6%	**26%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**54**	**21**	**14**	**12**	**101**
		Percent	6.2%	7.3%	8.5%	11.9%	**7%**
	Retained at native institution	**Number**	**632**	**181**	**92**	**52**	**957**
		Percent	72.5%	63.1%	55.8%	51.5%	**67%**
Total		**Number**	**872**	**287**	**165**	**101**	**1,425**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
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Table 12. Retention by Number of Subjects Underprepared

University of Kentucky

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**332**	**62**	**25**	**4**	**423**
		Percent	11.6%	16.8%	20.8%	25.0%	**13%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**266**	**60**	**18**	**4**	**348**
		Percent	9.3%	16.3%	15.0%	25.0%	**10%**
	Retained at native institution	**Number**	**2,253**	**246**	**77**	**8**	**2,584**
		Percent	79.0%	66.8%	64.2%	50.0%	**77%**
Total		**Number**	**2,851**	**368**	**120**	**16**	**3,355**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.

Table 12. Retention by Number of Subjects Underprepared

University of Louisville

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**208**	**92**	**27**	**1**	**328**
		Percent	13.3%	23.7%	27.8%	6.7%	**16%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**117**	**36**	**8**	**1**	**162**
		Percent	7.5%	9.3%	8.2%	6.7%	**8%**
	Retained at native institution	**Number**	**1,238**	**260**	**62**	**13**	**1,573**
		Percent	79.2%	67.0%	63.9%	86.7%	**76%**
Total		**Number**	**1,563**	**388**	**97**	**15**	**2,063**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.

Table 12. Retention by Number of Subjects Underprepared

Western Kentucky University

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**206**	**148**	**103**	**123**	**580**
		Percent	14.1%	25.1%	28.0%	31.4%	**21%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**109**	**49**	**29**	**30**	**217**
		Percent	7.5%	8.3%	7.9%	7.7%	**8%**
	Retained at native institution	**Number**	**1,141**	**393**	**236**	**239**	**2,009**
		Percent	78.4%	66.6%	64.1%	61.0%	**72%**
Total		**Number**	**1,456**	**590**	**368**	**392**	**2,806**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
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Table 12. Retention by Number of Subjects Underprepared

Northern Kentucky University

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**151**	**138**	**117**	**142**	**548**
		Percent	22.7%	33.1%	37.9%	46.6%	**32%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**30**	**25**	**20**	**11**	**86**
		Percent	4.5%	6.0%	6.5%	3.6%	**5%**
	Retained at native institution	**Number**	**483**	**254**	**172**	**152**	**1,061**
		Percent	72.7%	60.9%	55.7%	49.8%	**63%**
Total		**Number**	**664**	**417**	**309**	**305**	**1,695**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.
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Table 12. Retention by Number of Subjects Underprepared

KCTCS

			Number of subjects in which students were underprepared				
			0	**1**	**2**	**3**	**Total**
Not retained at any KY PSE institution	**Not retained at native institution**	**Number**	**750**	**1,055**	**1,167**	**1,178**	**4,150**
		Percent	32.9%	41.3%	45.0%	50.1%	**42%**
Retained at any KY PSE institution	**Not retained at native institution**	**Number**	**147**	**118**	**124**	**73**	**462**
		Percent	6.4%	4.6%	4.8%	3.1%	**5%**
	Retained at native institution	**Number**	**1,383**	**1,382**	**1,301**	**1,099**	**5,165**
		Percent	60.7%	54.1%	50.2%	46.8%	**53%**
Total		**Number**	**2,280**	**2,555**	**2,592**	**2,350**	**9,777**
		Percent	100%	100%	100%	100%	**100%**

(Total is smaller than the table 11 total because students with missing data in one or more subject are excluded.)

Note: Students who transfer to independent colleges and universities are included in the system-level transfer numbers.

Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

Eastern Kentucky University

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	36	13.0%
		Took at college level without remediation	2	0.7%
		Took remedial course	238	86.2%
		Subtotal	**276**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Did not take subject	7	9.3%
		Took at college level without remediation	1	1.3%
		Took remedial course	67	89.3%
		Subtotal	**75**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	7	1.6%
		Took at college level without remediation	13	3.0%
		Took remedial course	407	95.3%
		Subtotal	**427**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	50	6.4%
		Took at college level without remediation	16	2.1%
		Took remedial course	712	91.5%
		Total	**778**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

Kentucky State University

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	12	16.2%
		Took at college level without remediation	2	2.7%
		Took remedial course	60	81.1%
		Subtotal	**74**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Took at college level without remediation	1	20.0%
		Took remedial course	4	80.0%
		Subtotal	**5**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	17	11.3%
		Took at college level without remediation	7	4.6%
		Took remedial course	127	84.1%
		Subtotal	**151**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	29	12.6%
		Took at college level without remediation	10	4.3%
		Took remedial course	191	83.0%
		Total	**230**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

Morehead State University

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	71	36.8%
		Took remedial course	122	63.2%
		Subtotal	**193**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Did not take subject	6	13.0%
		Took remedial course	40	87.0%
		Subtotal	**46**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	18	4.4%
		Took at college level without remediation	3	0.7%
		Took remedial course	388	94.9%
		Subtotal	**409**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	95	14.7%
		Took at college level without remediation	3	0.5%
		Took remedial course	550	84.9%
		Total	**648**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

Murray State University

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	33	33.7%
		Took at college level without remediation	11	11.2%
		Took remedial course	54	55.1%
		Subtotal	**98**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Did not take subject	3	10.7%
		Took at college level without remediation	1	3.6%
		Took remedial course	24	85.7%
		Subtotal	**28**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	14	8.1%
		Took at college level without remediation	40	23.3%
		Took remedial course	118	68.6%
		Subtotal	**172**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	50	16.8%
		Took at college level without remediation	52	17.4%
		Took remedial course	196	65.8%
		Total	**298**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

University of Kentucky

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	21	39.6%
		Took at college level without remediation	6	11.3%
		Took remedial course	26	49.1%
		Subtotal	**53**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Did not take subject	6	15.0%
		Took at college level without remediation	5	12.5%
		Took remedial course	29	72.5%
		Subtotal	**40**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	19	10.4%
		Took at college level without remediation	35	19.2%
		Took remedial course	128	70.3%
		Subtotal	**182**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	46	16.7%
		Took at college level without remediation	46	16.7%
		Took remedial course	183	66.5%
		Total	**275**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

University of Louisville

			Underprepared in math	%
Not retained in KY PSE system	**Not retained at native institution**	**Math Course**		30.3%
		Did not take subject	23	
		Took at college level without remediation	5	6.6%
		Took remedial course	48	63.2%
		Subtotal	**76**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		14.8%
		Did not take subject	4	
		Took at college level without remediation	1	3.7%
		Took remedial course	22	81.5%
		Subtotal	**27**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	14	7.4%
		Took at college level without remediation	7	3.7%
		Took remedial course	167	88.8%
		Subtotal	**188**	**100.0%**
Total students underprepared in math		**Math Course**		14.1%
		Did not take subject	41	
		Took at college level without remediation	13	4.5%
		Took remedial course	237	81.4%
		Total	**291**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

Western Kentucky University

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	127	41.1%
		Took at college level without remediation	30	9.7%
		Took at college level with supplemental help	4	1.3%
		Took remedial course	148	47.9%
		Subtotal	**309**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Did not take subject	11	13.6%
		Took at college level without remediation	5	6.2%
		Took remedial course	65	80.2%
		Subtotal	**81**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	76	11.6%
		Took at college level without remediation	111	16.9%
		Took at college level with supplemental help	14	2.1%
		Took remedial course	455	69.4%
		Subtotal	**656**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	214	20.5%
		Took at college level without remediation	146	14.0%
		Took at college level with supplemental help	18	1.7%
		Took remedial course	668	63.9%
		Total	**1,046**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.
Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.
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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

Northern Kentucky University

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	127	37.4%
		Took at college level without remediation	11	3.2%
		Took remedial course	202	59.4%
		Subtotal	**340**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Did not take subject	9	25.7%
		Took remedial course	26	74.3%
		Subtotal	**35**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	61	13.7%
		Took at college level without remediation	24	5.4%
		Took remedial course	359	80.9%
		Subtotal	**444**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	197	24.1%
		Took at college level without remediation	35	4.3%
		Took remedial course	587	71.7%
		Total	**819**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 15. Students Underprepared in Math: Math Courses Taken by Retention Status

KCTCS

			Underprepared in math	%
		Math Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	1,388	50.5%
		Took at college level without remediation	131	4.8%
		Took remedial course	1,227	44.7%
		Subtotal	**2,746**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Math Course**		
		Did not take subject	84	34.6%
		Took at college level without remediation	11	4.5%
		Took remedial course	148	60.9%
		Subtotal	**243**	**100.0%**
	Retained at native institution	**Math Course**		
		Did not take subject	961	32.0%
		Took at college level without remediation	420	14.0%
		Took remedial course	1,620	54.0%
		Subtotal	**3,001**	**100.0%**
Total students underprepared in math		**Math Course**		
		Did not take subject	2,433	40.6%
		Took at college level without remediation	562	9.4%
		Took remedial course	2,995	50.0%
		Total	**5,990**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

Eastern Kentucky University

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	32	13.3%
		Took at college level without remediation	16	6.6%
		Took remedial course	193	80.1%
		Subtotal	**241**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Did not take subject	8	13.8%
		Took at college level without remediation	8	13.8%
		Took remedial course	42	72.4%
		Subtotal	**58**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	6	1.9%
		Took at college level without remediation	47	14.6%
		Took remedial course	269	83.5%
		Subtotal	**322**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	46	7.4%
		Took at college level without remediation	71	11.4%
		Took remedial course	504	81.2%
		Total	**621**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

Kentucky State University

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	4	5.3%
		Took at college level without remediation	13	17.3%
		Took remedial course	58	77.3%
		Subtotal	**75**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Took remedial course	9	100.0%
		Subtotal	**9**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	7	5.1%
		Took at college level without remediation	20	14.5%
		Took remedial course	111	80.4%
		Subtotal	**138**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	11	5.0%
		Took at college level without remediation	33	14.9%
		Took remedial course	178	80.2%
		Total	**222**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

Morehead State University

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	24	14.0%
		Took at college level without remediation	10	5.8%
		Took remedial course	137	80.1%
		Subtotal	**171**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Did not take subject	8	17.8%
		Took at college level without remediation	2	4.4%
		Took remedial course	35	77.8%
		Subtotal	**45**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	7	2.1%
		Took at college level without remediation	13	3.9%
		Took remedial course	314	94.0%
		Subtotal	**334**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	39	7.1%
		Took at college level without remediation	25	4.5%
		Took remedial course	486	88.4%
		Total	**550**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

Murray State University

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	35	24.5%
		Took at college level without remediation	58	40.6%
		Took remedial course	50	35.0%
		Subtotal	**143**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Did not take subject	1	2.9%
		Took at college level without remediation	13	37.1%
		Took remedial course	21	60.0%
		Subtotal	**35**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	8	3.6%
		Took at college level without remediation	126	57.3%
		Took remedial course	86	39.1%
		Subtotal	**220**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	44	11.1%
		Took at college level without remediation	197	49.5%
		Took remedial course	157	39.4%
		Total	**398**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

University of Kentucky

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	4	6.8%
		Took at college level without remediation	55	93.2%
		Subtotal	**59**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Took at college level without remediation	31	96.9%
		Took remedial course	1	3.1%
		Subtotal	**32**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	3	2.2%
		Took at college level without remediation	133	97.8%
		Subtotal	**136**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	7	3.1%
		Took at college level without remediation	219	96.5%
		Took remedial course	1	0.4%
		Total	**227**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

University of Louisville

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	15	34.9%
		Took at college level without remediation	28	65.1%
		Subtotal	**43**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Did not take subject	2	13.3%
		Took at college level without remediation	13	86.7%
		Subtotal	**15**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	6	4.1%
		Took at college level without remediation	141	95.9%
		Subtotal	**147**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	23	11.2%
		Took at college level without remediation	182	88.8%
		Total	**205**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

Western Kentucky University

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	70	29.9%
		Took at college level without remediation	14	6.0%
		Took at college level with supplemental help	40	17.1%
		Took remedial course	110	47.0%
		Subtotal	**234**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Did not take subject	18	26.5%
		Took at college level without remediation	4	5.9%
		Took at college level with supplemental help	13	19.1%
		Took remedial course	33	48.5%
		Subtotal	**68**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	29	5.5%
		Took at college level without remediation	54	10.2%
		Took at college level with supplemental help	149	28.2%
		Took remedial course	297	56.1%
		Subtotal	**529**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	117	14.1%
		Took at college level without remediation	72	8.7%
		Took at college level with supplemental help	202	24.3%
		Took remedial course	440	52.9%
		Total	**831**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

Northern Kentucky University

			Underprepared in English	%
Not retained in KY PSE system	**Not retained at native institution**	**English Course**		
		Did not take subject	84	27.5%
		Took at college level without remediation	47	15.4%
		Took remedial course	174	57.0%
		Subtotal	**305**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Did not take subject	5	13.9%
		Took at college level without remediation	7	19.4%
		Took remedial course	24	66.7%
		Subtotal	**36**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	30	7.1%
		Took at college level without remediation	133	31.6%
		Took remedial course	258	61.3%
		Subtotal	**421**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	119	15.6%
		Took at college level without remediation	187	24.5%
		Took remedial course	456	59.8%
		Total	**762**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 16. Students Underprepared in English: English Courses Taken by Retention Status

KCTCS

			Underprepared in English	%
		English Course		
Not retained in KY PSE system	**Not retained at native institution**	**Did not take subject**	1,179	48.2%
		Took at college level without remediation	242	9.9%
		Took remedial course	1,026	41.9%
		Subtotal	**2,447**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**English Course**		
		Did not take subject	64	30.0%
		Took at college level without remediation	64	30.0%
		Took remedial course	85	39.9%
		Subtotal	**213**	**100.0%**
	Retained at native institution	**English Course**		
		Did not take subject	642	25.2%
		Took at college level without remediation	541	21.2%
		Took remedial course	1,369	53.6%
		Subtotal	**2,552**	**100.0%**
Total students underprepared in English		**English Course**		
		Did not take subject	1,885	36.2%
		Took at college level without remediation	847	16.3%
		Took remedial course	2,480	47.6%
		Total	**5,212**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

Eastern Kentucky University

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	46	28.2%
		Took remedial course	117	71.8%
		Subtotal	**163**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	7	17.9%
		Took remedial course	32	82.1%
		Subtotal	**39**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	40	17.8%
		Took remedial course	185	82.2%
		Subtotal	**225**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	93	21.8%
		Took remedial course	334	78.2%
		Total	**427**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

Kentucky State University

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	34	57.6%
		Took remedial course	25	42.4%
		Subtotal	**59**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	3	37.5%
		Took remedial course	5	62.5%
		Subtotal	**8**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	37	39.4%
		Took remedial course	57	60.6%
		Subtotal	**94**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	74	46.0%
		Took remedial course	87	54.0%
		Total	**161**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

Morehead State University

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	28	22.8%
		Took remedial course	95	77.2%
		Subtotal	**123**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	2	5.0%
		Took remedial course	38	95.0%
		Subtotal	**40**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	9	3.8%
		Took remedial course	228	96.2%
		Subtotal	**237**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	39	9.8%
		Took remedial course	361	90.3%
		Total	**400**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

Murray State University

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	42	56.8%
		Took remedial course	32	43.2%
		Subtotal	**74**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	11	50.0%
		Took remedial course	11	50.0%
		Subtotal	**22**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	54	41.9%
		Took remedial course	75	58.1%
		Subtotal	**129**	**100.0%**
Total students underprepared in reading		**Reading Course**		47.6%
		No remedial course	107	
		Took remedial course	118	52.4%
		Total	**225**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

University of Kentucky

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	24	100.0%
		Subtotal	**24**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	36	100.0%
		Subtotal	**36**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	125	100.0%
		Subtotal	**125**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	185	100.0%
		Total	**185**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

University of Louisville

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	25	65.8%
		Took remedial course	13	34.2%
		Subtotal	**38**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	9	64.3%
		Took remedial course	5	35.7%
		Subtotal	**14**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	71	67.6%
		Took remedial course	34	32.4%
		Subtotal	**105**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	105	66.9%
		Took remedial course	52	33.1%
		Total	**157**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

Western Kentucky University

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	73	37.6%
		Took remedial course	121	62.4%
		Subtotal	**194**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	13	24.5%
		Took remedial course	40	75.5%
		Subtotal	**53**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	75	17.2%
		Took remedial course	362	82.8%
		Subtotal	**437**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	161	23.5%
		Took remedial course	523	76.5%
		Total	**684**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

Northern Kentucky University

			Underprepared in reading	%
		Reading Course		
Not retained in KY PSE system	**Not retained at native institution**	**No remedial course**	84	41.0%
		Took remedial course	121	59.0%
		Subtotal	**205**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	12	42.9%
		Took remedial course	16	57.1%
		Subtotal	**28**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	73	26.3%
		Took remedial course	205	73.7%
		Subtotal	**278**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	169	33.1%
		Took remedial course	342	66.9%
		Total	**511**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

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Table 17. Students Underprepared in Reading: Remedial Reading Courses Taken by Retention Status

KCTCS

			Underprepared in reading	%
Not retained in KY PSE system	**Not retained at native institution**	**Reading Course**		
		No remedial course	1,350	70.5%
		Took remedial course	566	29.5%
		Subtotal	**1,916**	**100.0%**
Retained at any KY PSE institution	**Not retained at native institution**	**Reading Course**		
		No remedial course	108	75.0%
		Took remedial course	36	25.0%
		Subtotal	**144**	**100.0%**
	Retained at native institution	**Reading Course**		
		No remedial course	1,207	64.1%
		Took remedial course	677	35.9%
		Subtotal	**1,884**	**100.0%**
Total students underprepared in reading		**Reading Course**		
		No remedial course	2,665	67.6%
		Took remedial course	1,279	32.4%
		Total	**3,944**	**100.0%**

Note: Categories reflect courses taken as of a student's last semester of enrollment within their first two years. 'Took college level' categories do not include students who withdrew. Remedial courses taken at KCTCS included in remedial course total.

Note: On-campus placement exam results for students placing out of remediation were not collected from the four-year sector, so this table may overestimate the number of students who were underprepared and not remediated at four-year institutions.

Council on Postsecondary Education, Mandatory Placement Report, November 2, 2005

Appendix 2. Assessment Crosswalk for Mandatory Placement Policy

Mathematics Assessment

ACT	SAT (1)	Asset Elementary Algebra (2)	Asset Inter-mediate Algebra (2)	Asset Numerical Skills (2)	Compass Algebra (2)	Compass Pre-Algebra (2)	Compass College Algebra (no information available)	Compass Trig-onometry (no information available)	Accuplacer Elementary Algebra
20 or higher	480 or higher	45-55	40-55		48-100				
19	460-470	43-44	39		41-47				
18	430-450	41-42	38		35-40				
Below 18	420 and below	39-40	36-37	42-55	30-34	41-100			50 or below
Developmental Placement		23-38	23-35	29-41	16-29	17-40			
				23-28					

Reading Assessment

ACT	SAT (1)	Asset Reading	Compass Reading	Accuplacer Reading
18 or above		42-55	81-100	61 or above
Below 18	none	38-41	70-80	
Developmental Placement	none	34-37	51-69	
	none	23-33	44-50	

Writing Assessment

ACT	SAT (1)	Asset Writing Skills (2)	Compass (2)	Accuplacer Sentence Skills
18 or Above	450 and above	41-54	70-100	62 or above
Below 18	440 and below	35-40	38-69	51-61
Developmental Placement		23-34	21-37	
			14-20	

(1) From ACT, Inc.
(2) From KCTCS Assessment and Placement Policy.