What's Happening

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Participation in Kentucky's college preparatory transition courses: An update

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Key findings

This study updates a previous Regional Educational Laboratory Appalachia report on participation in college preparatory transition courses—an intervention offered to grade 12 students who have not met college readiness benchmarks—in Kentucky in 2011/12 by examining data for 2014/15. Among the findings:

- The proportion of students entering grade 12 who did not meet college readiness benchmarks was 53 percent in math, 50 percent in reading, and 40 percent in English, a decrease of about 6 percentage points in math and reading since 2011/12 (benchmarks for English were not examined in the earlier study).
- Nearly two-thirds of Kentucky high schools—mostly small, rural, and low-performing schools—offered transition courses.
- Approximately 40 percent of students who did not meet college readiness benchmarks in math and approximately 20 percent who did not meet benchmarks in reading or English participated in a transition course in those subjects.
- From 2011/12 to 2014/15 participation in transition courses in math increased 3 percentage points overall and 9 percentage points among students who were approaching college readiness benchmarks in math.

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Summary

Kentucky offers college preparatory transition courses in math, reading, and English to grade 12 students. The courses are designed as one possible intervention for students who do not meet state college readiness benchmarks in one or more of those subjects on the ACT in grade 11. This study updates a previous Regional Educational Laboratory (REL) Appalachia report on participation in transition courses in 2011/12 (Mokher, 2014) by examining data for 2014/15.

Kentucky's transition course program has evolved in two key ways since the study for 2011/12 (Mokher, 2014). First, transition courses are now offered in English; in 2011/12 they were available only in math and reading. Second, the Kentucky Department of Education has modified its recommendations on which students could be considered for enrollment in a transition course in grade 12 to include all students who score below college readiness benchmarks. These changes make some comparisons between 2011/12 and 2014/15 participation rates difficult.

Key findings for 2014/15 include:

- The proportion of students entering grade 12 who did not meet college readiness benchmarks was 53 percent in math, 50 percent in reading, and 40 percent in English, a decrease of about 6 percentage points in math and reading since 2011/12 (benchmarks for English were not examined in the earlier study).
- Nearly two-thirds of Kentucky high schools—mostly small, rural, and low-performing schools—offered transition courses.
- Approximately 40 percent of students who did not meet college readiness benchmarks in math and approximately 20 percent who did not meet benchmarks in reading or English participated in a transition course in those subjects.
- From 2011/12 to 2014/15 participation in transition courses in math increased 3 percentage points overall and 9 percentage points among students who were approaching college readiness benchmarks in math.

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Why this study?

In 2009 Kentucky passed legislation aimed at improving the college readiness of high school graduates.[1] The legislation requires schools to offer interventions to grade 12 students who do not meet college readiness benchmarks, as measured by performance on the ACT in grade 11 (box 1). Schools have several options for programs to improve students' college and career readiness, including college preparatory transition courses.

Regional Educational Laboratory (REL) Appalachia previously worked with the Kentucky Department of Education and other stakeholders in Kentucky to study participation and completion rates of students in college preparatory transition courses (Cramer & Mokher, 2015; Mokher, 2014). Those studies looked at grade 12 students in the 2011/12 school year, one of the first cohorts of students affected by the 2009 legislation. The department had originally recommended that only the grade 11 students in the approaching state benchmarks category (scoring within 3 points of the college readiness benchmarks; see box 1) be considered for transition courses in grade 12. Of students in the approaching state benchmarks category, 28 percent participated in a transition course in math and 8 percent participated in a transition course in reading. (No transition courses in English were offered in 2011/12.)

This follow-up study analyzes participation in college preparatory transition courses in 2014/15, the most recent school year for which data are available, to provide updated information on students' needs for college readiness interventions based on state guidelines

This follow-up study analyzes participation in 2014/15, the most recent school year for which data are available. Data were analyzed statewide and disaggregated by student and school characteristics. The findings provide members of the Kentucky College and Career Readiness Alliance—a partnership among REL Appalachia, the Kentucky Department of Education, the Council on Postsecondary Education, and seven of Kentucky's eight regional educational cooperatives[2]—updated information on students' needs for college readiness interventions based on state guidelines as well as participation rates in transition courses. The study also offers results by schools' Elementary and Secondary Education Act designation (priority school, focus school, or reward school), something that Kentucky Department of Education staff expressed particular interest in.[3]

Box 1. Kentucky college readiness benchmarks defined

The Kentucky Department of Education and the state's Council on Postsecondary Education established benchmarks for college readiness based on ACT scores in math, reading, and English. Students who score below the benchmarks are not considered college ready. The three benchmarks are independent: a student can meet benchmarks in one or two subject areas while not meeting them in the others.

College readiness benchmarks based on ACT scores

College readiness category	ACT score		
	Math	Reading	English
Meeting state benchmarks	19 or higher	20 or higher	18 or higher
Approaching state benchmarks	16–18	17–19	15–17
Performing below state benchmarks	15 or lower	16 or lower	14 or lower

Source: Authors' construction based on data from the Kentucky Department of Education and the Council on Postsecondary Education.

What the study examined

The study updates information from the 2011/12 study on implementation of transition courses in Kentucky high schools and on which students participated in the courses. Kentucky's transition course program has evolved in two key ways since that study (Mokher, 2014):

- During the 2011/12 school year, transition courses were available only in math and reading. They have since become available in English.
- The Kentucky Department of Education modified its recommendations for which students could be considered for enrollment in a transition course in grade 12 to include any student whose score is lower than the college readiness benchmarks.

Although these changes make it difficult to interpret comparisons of participation rates between 2011/12 and 2014/15, this report discusses findings from both the current and original study where possible.

College preparatory transition courses are broadly defined as "courses, learning modules, or online tutorials developed jointly by secondary and postsecondary faculty and offered no later than 12th grade to students at risk of being placed into remedial math or English in college" (Barnett, Fay, Bork, & Trimble, 2013, p. 2). As of 2013, 29 states had implemented transition courses, and 9 states were developing them (Barnett et al., 2013). Kentucky uses transition courses as one of several interventions to prepare grade 12 students to succeed in credit-bearing courses in college and thereby to increase their likelihood of completing college (box 2).

Kentucky uses transition courses as one of several interventions to prepare grade 12 students to succeed in credit-bearing courses in college and thereby to increase their likelihood of completing college

Box 2. Kentucky's transition courses

Since 2010/11 all Kentucky public high schools have been required to offer at least one intervention for students who do not meet the state's college readiness benchmarks by the start of grade 12. Schools can choose which interventions to offer, and students can choose whether to participate. Interventions include transition courses, afterschool programs, short-term targeted course modules, embedded interventions within existing classes, test preparation programs, and supplemental courses to accompany traditional courses.

The state and its districts have invested considerable resources in transition courses. The Kentucky Department of Education developed curricula for transition courses in math in 2009/10, in reading in 2010/11, and in English in 2012/13. Many districts developed alternative curricula for such courses on their own or in partnership with postsecondary institutions.

Transition courses in Kentucky have the following characteristics:

- *Content.* Transition course content must be aligned with the ACT, the Common Core State Standards, and Kentucky's college and career readiness standards (ACT, 2010; Kentucky Department of Education, 2010).
- *Course credit.* Transition courses in math can count toward high school graduation requirements in math, and transition courses in reading and English can count toward elective credit (Kentucky Department of Education, n.d.).
- *Curriculum.* Schools can develop their own transition courses or use courses developed by the state or another provider. Courses have been developed by high school teachers, by faculty at community and four-year colleges and universities, and by teams of educators

(continued)

Box 2. Kentucky's transition courses *(continued)*

working through the Kentucky Department of Education's Office of Next Generation Learners (Southern Regional Education Board, 2011).

- *Format.* Kentucky allows wide variation in format. Each school can choose its delivery method (such as face-to-face, online, or hybrid). Schools also can choose whether to offer courses during the school day, outside the school day, or both.
- *Instructors.* All transition courses must be taught by a certified teacher.

The Kentucky Department of Education requests that schools assign its official course codes to their transition courses in the student information system but allows schools to use local course names.

This report focuses on full-semester transition courses for which students earn high school credit and that are captured in the state's student information system

Although Kentucky's transition courses vary in content, course credit, curriculum, and format, this report focuses on full-semester transition courses for which students earn high school credit and that are captured in the state's student information system.

To provide Kentucky stakeholders with information on the implementation of transition courses and on which students participated, this study addresses three research questions:

- What percentage of Kentucky grade 12 students in 2014/15 met, approached, or performed below state benchmarks on the ACT in grade 11? How do the results vary by schools' Elementary and Secondary Education Act designation (priority, focus, and reward schools)?
- How many and what percentage of Kentucky high schools offered transition courses overall and in each subject in 2014/15? How do the results vary by schools' Elementary and Secondary Education Act designation?[4]
- In schools that offered transition courses, how many and what percentage of Kentucky grade 12 students participated in transition courses overall and in each subject in 2014/15? How do the results vary by student and school characteristics?[5]

Where possible, comparisons are made with the 2011/12 results. Several observations on how schools use course codes and course names to report transition courses are also included. See box 3 for a summary of data and methods used in the study, and see the appendix for more detail.

Box 3. Data and methods

For this descriptive study the Kentucky Department of Education's Division of Enterprise Data provided de-identified grade 12 student-level data for the 2014/15 school year, including school enrollment, demographics, course records, and ACT records through the end of grade 11. Its Division of Next Generation Learners provided a list of schools by Elementary and Secondary Education Act designation (priority, focus, and reward schools). School locale and enrollment size data were downloaded from the 2013/14 Common Core of Data (U.S. Department of Education, 2015).

The study population consisted of all 40,722 Kentucky public high school students who were in grade 12 for the first time during 2014/15 in Kentucky's 284 public high schools. The study excluded:

- Students who were repeating grade 12, as they might have participated in a transition course the year before.

(continued)

Box 3. Data and methods *(continued)*

- Students whose first participation record for grade 12 occurred after September 30, 2014.[1]
- Students missing ACT scores, course records in math or English language arts, or data on student or school subgroup characteristics.

Only students with complete datasets were included in the analyses. The resulting analytic sample comprised 38,111 students (94 percent of the grade 12 population).

For the 50 students with multiple ACT scores in grade 11 (0.1 percent of students in the full sample), the study team used the highest overall score achieved before August 1, 2014, to classify students as meeting, approaching, or performing below state benchmarks. Students who did not have an ACT score preceding that date were excluded from the analytical sample.

To improve data quality when reporting course enrollments, schools in Kentucky use a single, standardized student information system. Still, because of variation at the school level, course names and codes had to be interpreted to identify transition courses. This presented a specific challenge for reading and English courses, where course names often combined reading and English. Therefore, the analysis combines reading and English enrollments into a single English language arts category. However, students' performance against the college readiness benchmarks were examined separately for reading and English. See the appendix for more information on how transition courses were identified.

Methods for determining the number and percentage of students in each college readiness benchmark group and for calculating participation rates in transition courses are the same as in Mokher (2014). Descriptive results are provided statewide and for various subgroups based on student or school characteristics.

Note

1. This exclusion is consistent with the methodology in Mokher (2014) and is intended to account for students who have transferred from out of state who may not have had ACT records or whose course assignments were based on the previous school's enrollment decisions.

What the study found

A lower percentage of students needed an intervention in 2014/15 than in 2011/12

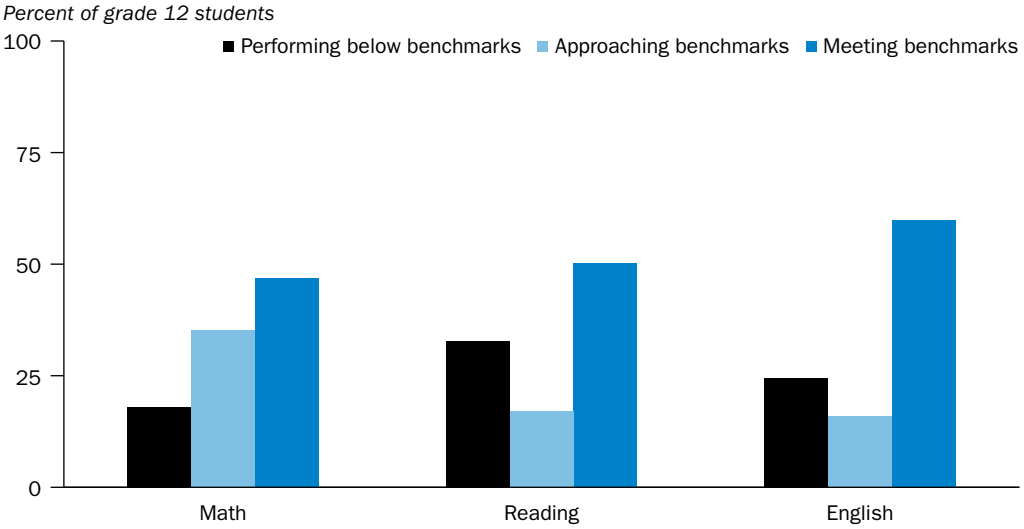
This section presents updates to findings from Mokher (2014), as well as new findings related to the implementation of transition courses in Kentucky.

About half of students did not meet college readiness benchmarks in at least one subject (math, reading, or English)

In 2014/15 the percentage of students who did not meet state benchmarks was 53 percent in math, 50 percent in reading, and 40 percent in English. The percentage of students in the approaching benchmarks category was more than twice as high in math (35 percent) as in reading (17 percent) and English (16 percent; figure 1). Conversely, the percentage of students in the performing below benchmarks category was higher in reading (33 percent) and English (24 percent) than in math (18 percent).

The percentage of students who did not meet benchmarks was 6 percentage points lower in 2014/15 than in 2011/12 in both math and reading (Mokher, 2014).[6] Hence, a lower percentage of students needed an intervention in 2014/15 than in 2011/12.

Figure 1. Approximately half of Kentucky grade 12 students did not meet state benchmarks in math, reading, or English, 2014/15



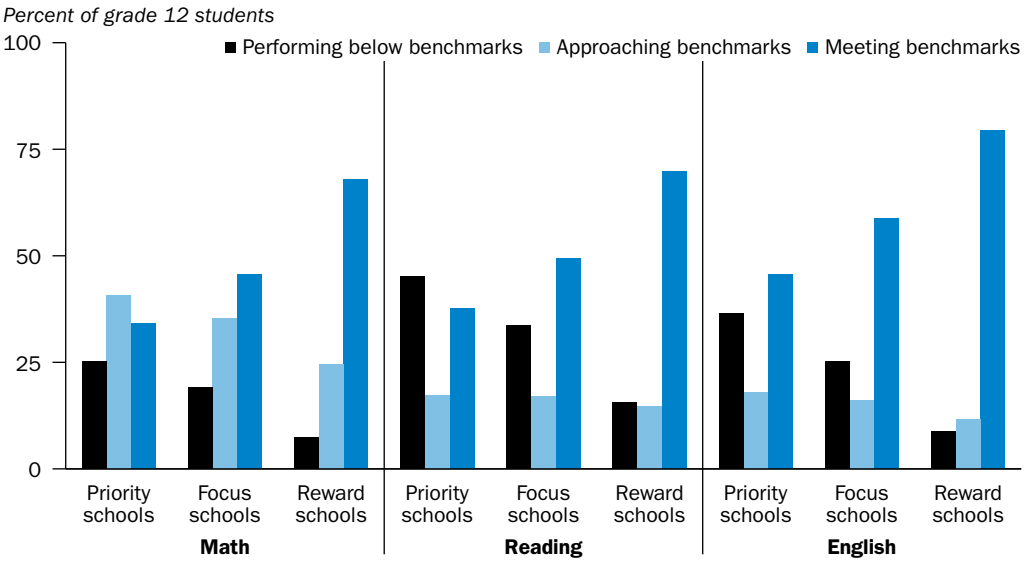
Note: Tests of statistical significance were not conducted because the analysis includes the entire population of students with nonmissing data.

Source: Authors' calculations based on data from the Kentucky Department of Education.

Priority schools had the highest percentage of students in the performing below benchmarks category in all three subjects; priority and focus schools had similar percentages of students in the approaching state benchmarks category in all three subjects

Among Elementary and Secondary Education Act–designated schools, priority schools had the highest percentage of students in the performing below benchmarks category in all three subjects (figure 2). Priority and focus schools had similar percentages of students in the approaching state benchmarks category in all three subjects—and the percentages for both types of schools were higher than the percentages for reward schools.

Figure 2. In all three subjects priority high schools in Kentucky had the highest percentage of students in the performing below benchmarks category, 2014/15



Note: Tests of statistical significance were not conducted because the analysis includes the entire population of students with nonmissing data. Percentages may not sum to 100 because of rounding. There were 26 priority schools, 84 focus schools, and 14 reward schools.

Source: Authors' calculations based on data from the Kentucky Department of Education.

Percentages by Elementary and Secondary Education Act designation tended to follow the same pattern as those for the state overall. In math the percentage of students in the performing below benchmarks category was lower than the percentage in the approaching benchmarks category for all three school designations (see figure 2). In reading and English the percentage of students in the approaching benchmarks category was lower than the percentage in the performing below benchmarks category and the meeting benchmarks category, except in reward schools, where a large majority of students were in the meeting benchmarks category.

Nearly two-thirds of high schools offered a transition course in math or English language arts

In 2014/15, 65 percent of Kentucky high schools offered at least one transition course (table 1).

Fifty-seven percent of schools offered a transition course in math, and 33 percent offered a transition course in English language arts

Fifty-seven percent of schools (162 schools) offered a transition course in math, and 33 percent (93 schools) offered a transition course in English language arts. In 2011/12, 135 schools offered a transition course in math, and 66 offered a transition course in reading (Mokher, 2014). The number of schools that offered a transition course in math only was four times the number that offered a transition course in English language arts only.

The percentage of priority and focus schools that offered at least one transition course (73 percent each) was higher than the percentage of reward schools that did (43 percent) and the percentage of all schools that did (65 percent; see table 1). The percentage of focus schools that offered a transition course in math was larger than the percentage that offered a transition course in English language arts, but the percentage of priority schools that offered a transition course in math was similar to the percentage that offered a transition course in English language arts.

Nearly 40 percent of students who did not meet college readiness benchmarks in math participated in transition courses

The percentage of students in the performing below benchmarks and approaching benchmarks categories in math who participated in a transition course in math was nearly 40 percent (figure 3). The percentage of students in the performing below benchmarks and approaching benchmarks categories in reading and English who participated in a transition course in English language arts was less than 20 percent. Overall, in 2014/15, 22 percent of

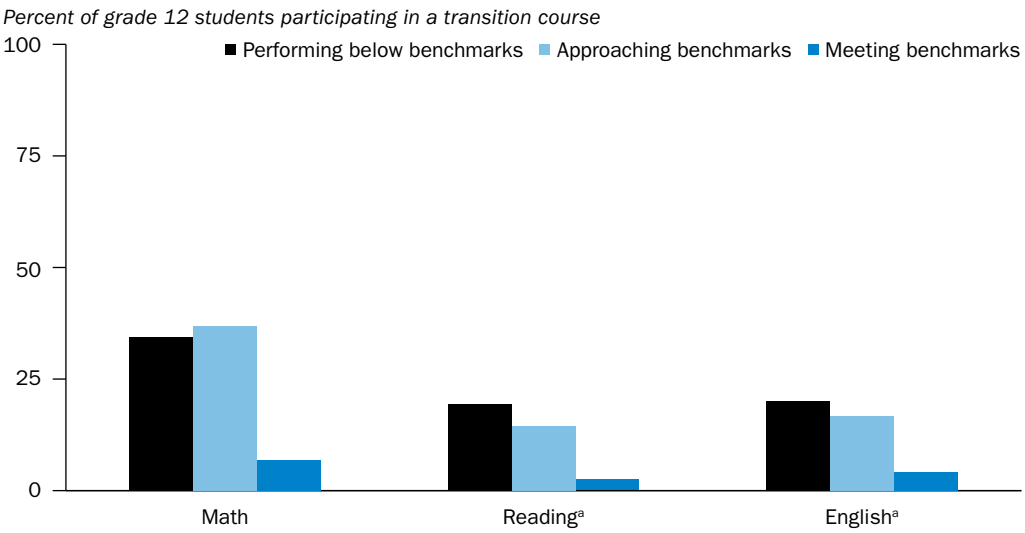
Table 1. Number and percentage of Kentucky high schools that offered at least one transition course, 2014/15

Transition course availability	All schools		Priority schools		Focus schools		Reward schools	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Any transition courses	185	65.1	19	73.1	61	72.6	6	42.9
Math only	92	32.4	5	19.2	34	40.4	3	21.4
English language arts only	23	8.1	8	30.8	5	6.0	1	7.1
Both	70	24.6	6	23.1	22	26.2	2	14.3
No transition courses	99	34.9	7	26.9	23	27.4	8	57.1
Total	284	100.0	26	100.0	84	100.0	14	100.0

Note: Percentages may not sum to totals because of rounding.

Source: Authors' calculations based on data from the Kentucky Department of Education.

Figure 3. Nearly 40 percent of Kentucky students in grade 12 in the approaching benchmarks category in math participated in a transition course in math, 2014/15



Note: Tests of statistical significance were not conducted because the analysis includes the entire population of students with nonmissing data.

a. Rates refer to participation in a transition course in the combined English language arts category.

Source: Authors' calculations based on data from the Kentucky Department of Education.

grade 12 students (8,509 students) participated in a transition course in math, and 10 percent of grade 12 students (3,836 students) participated in a transition course in English language arts. The higher overall participation rate in math was expected, to some extent, because a lower percentage of students met benchmarks in math than in reading and English.

Because transition courses are designed for students who do not meet college readiness benchmarks—who are either approaching benchmarks or below benchmarks—it is reasonable to expect higher participation among students who do not meet benchmarks. Indeed the participation rate in a transition course in math or English language arts was higher among students in the performing below benchmarks and approaching benchmarks categories in all three ACT subjects than among students in the meeting benchmarks category.[7] The percentage of students in the meeting benchmarks category in each subject who took a transition course in that subject was less than 10 percent.

Between 2011/12 and 2014/15 the statewide participation rate in transition courses in math increased from 27 percent to 34 percent among students in the performing below benchmarks category, from 28 percent to 37 percent among students in the approaching benchmarks category, and from 6 percent to 7 percent among students in the meeting benchmarks category

Across all schools, participation in transition courses in math rose from 2011/12 to 2014/15

For each category of college readiness the percentage of students participating in a transition course in math was 1–9 percentage points higher in 2014/15 than in 2011/12 (Mokher, 2014). Between 2011/12 and 2014/15 the statewide participation rate increased from 27 percent to 34 percent among students in the performing below benchmarks category, from 28 percent to 37 percent among students in the approaching benchmarks category, and from 6 percent to 7 percent among students in the meeting benchmarks category. Since 2011/12 the overall participation rate in transition courses in math increased 3 percentage points.

Participation rates in transition courses in English language arts cannot be compared over time because English courses were not included in the data in 2011/12.

In schools that offered transition courses, about half of students who did not meet college readiness benchmarks in each subject participated in a transition course

In schools that offered transition courses, in math 57 percent of students in the approaching benchmarks category and 56 percent of students in the performing below benchmarks category participated in a transition course (table 2). In reading 43 percent of students in the approaching benchmarks category and 54 percent of students in the performing below benchmarks category participated in a transition course. In English language arts 50 percent of students in the approaching benchmarks category and 55 percent of students in the performing below benchmarks category participated in a transition course.

Table 2. Participation in transition courses among all Kentucky grade 12 students, by student and school subgroup, 2014/15

	Math			English language arts		
Subgroup	Number	Percent of students in all 284 schools	Percent of students in the 185 schools that offered transition courses	Number	Percent of students in all 284 schools	Percent of students in the 185 schools that offered transition courses
Total	8,509	22.3	35.2	3,836	10.1	31.7
Student characteristics						
ACT subject						
Math						
Meeting benchmarks	1,213	6.8	10.7	na	na	na
Approaching benchmarks	4,946	36.9	57.2	na	na	na
Performing below benchmarks	2,350	34.5	56.2	na	na	na
Reading						
Meeting benchmarks	na	na	na	488	2.6	8.9
Approaching benchmarks	na	na	na	942	14.5	43.3
Performing below benchmarks	na	na	na	2,406	19.3	53.9
English						
Meeting benchmarks	na	na	na	961	4.2	14.4
Approaching benchmarks	na	na	na	1,007	16.7	50.1
Performing below benchmarks	na	na	na	1,868	20.1	55.0
Race/ethnicity						
White	7,365	23.1	34.7	3,064	9.6	30.2
Black	637	17.5	42.1	511	14.0	43.2
Hispanic	267	21.3	40.0	141	11.2	35.9
Other	240	18.0	31.9	120	9.0	30.9
Sex						
Male	4,263	22.3	34.9	2,024	10.6	33.4
Female	4,246	22.3	35.5	1,812	9.5	30.0
Federal school lunch program status						
Eligible	5,004	27.5	43.4	2,539	14.0	38.9
Not eligible	3,505	17.6	27.7	1,297	6.5	23.3
English learner status						
English learner	58	18.0	52.3	50	15.5	47.6
Not English learner	8,451	22.4	35.1	3,786	10.0	31.6

(continued)

Table 2. Participation in transition courses among all Kentucky grade 12 students, by student and school subgroup, 2014/15 *(continued)*

Subgroup	Math			English language arts		
	Number	Percent of students in all 284 schools	Percent of students in the 185 schools that offered transition courses	Number	Percent of students in all 284 schools	Percent of students in the 185 schools that offered transition courses
Special education status						
Has individualized education program	198	33.5	52.0	87	14.7	43.7
Does not have individualized education program	8,311	22.2	34.9	3,749	10.0	31.5
School characteristics						
Elementary and Secondary Education Act designation						
Focus school	3,227	21.1	31.5	1,240	8.1	28.7
Priority school	786	18.8	42.2	697	16.6	30.2
Reward school	158	5.2	19.5	47	1.5	21.3
Locale[a]						
Urban	739	9.6	26.8	582	7.5	33.0
Suburban	1,028	14.2	27.3	464	6.4	30.1
Town	2,659	25.4	34.0	1,231	11.8	25.7
Rural	4,083	32.3	41.6	1,559	12.3	38.8
Enrollment in grades 9–12[a]						
Fewer than 500	1,363	29.8	46.3	680	14.9	34.5
500–749	1,890	33.8	41.9	675	12.1	34.6
750–999	2,023	25.5	39.9	924	11.7	28.7
1,000 or more	3,233	16.2	27.8	1,557	7.8	31.4

na is not applicable.

Note: Students are the unit of analysis; the numbers of students presented in the table are based on an unduplicated count of students who participated in a transition course. Percentages reflect participation rates among students with specific characteristics.

a. Student-level data from the Kentucky Department of Education were matched to locale and enrollment data from the 2013/14 National Center for Education Statistics Common Core of Data, the most current year available, through a code unique to each school and common to both datasets.

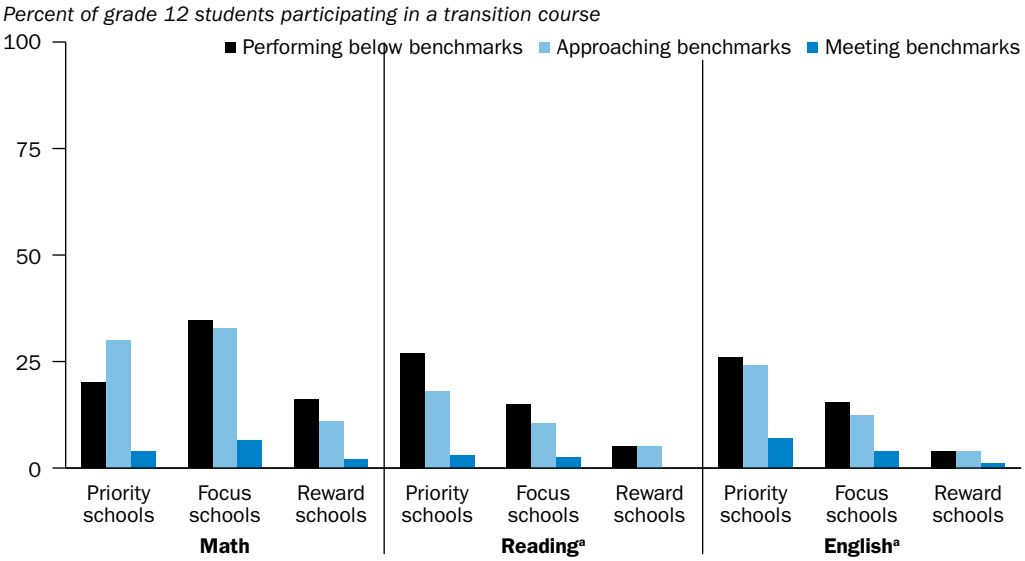
Source: Authors' calculations based on data from the Kentucky Department of Education and U.S. Department of Education (2015).

In schools that offered transition courses participation rates were higher among Black students, students eligible for the federal school lunch program, and students with an Individualized Education Program

In schools that offered transition courses, participation rates ranged from around 30 percent to 43 percent among various racial/ethnic groups in transition courses in math and English language arts. Black students participated in transition courses at the highest rate of any racial/ethnic group: 42 percent in math courses and 43 percent in English language arts courses. Students eligible for the federal school lunch program and those with an Individualized Education Program (students receiving special education services) also participated in transition courses at higher rates than did other students.

With respect to school characteristics participation rates in transition courses in math were lower among students in urban schools than among students in suburban, town, and rural schools. Participation rates were also lower in larger schools, possibly because larger schools have more resources to offer a wider variety of interventions.

Figure 4. Participation rates among students in the approaching benchmarks category in math were lower in priority and focus schools than in the state as a whole, 2014/15



Note: Tests of statistical significance were not conducted because the analysis includes the entire population of students with nonmissing data. There were 26 priority schools, 84 focus schools, and 14 reward schools.

a. Rates refer to participation in a transition course in the combined English language arts category.

Source: Authors' calculations based on data from the Kentucky Department of Education.

Priority and focus schools had lower participation rates in transition courses in math than did the state as a whole

Participation rates among students in the approaching benchmarks category in math were lower in priority schools (30 percent) and focus schools (33 percent) than for the state as a whole (37 percent; figure 4). The participation rate in transition courses in math among students in the performing below benchmarks category in math was lower in priority schools (20 percent) than for the state as a whole (34 percent). In contrast, participation rates in transition courses in English language arts among students in the performing below benchmarks category and the approaching benchmarks category in reading and English were higher in priority schools (18–27 percent) than for the state as a whole (14–20 percent).

Implications of the study findings

This study indicates that nearly two-thirds of high schools in Kentucky offer at least one college preparatory transition course. However, that means that one-third of schools do not. Further, only one-quarter of schools offer transition courses in both math and English language arts. And while a majority of schools offer transition courses, in 2014/15 less than 40 percent of students who did not meet benchmarks participated in transition courses. It may be worthwhile to examine the relationship between the number of students in a school who do not meet benchmarks in a given subject and the likelihood that the school offers a transition course in that subject, because a school may need a minimum threshold of students to offer a course. It may also be valuable, for policy,

It may be worthwhile to examine the relationship between the number of students in a school who do not meet benchmarks in a given subject and the likelihood that the school offers a transition course in that subject, because a school may need a minimum threshold of students to offer a course

practice, and research efforts, to determine what additional interventions schools are offering and students are choosing.

In addition, since the number of schools offering transition courses and student participation in such courses have increased since 2011/12, research is needed on the effectiveness of transition courses as a college readiness intervention. Neither this study or Mokher (2014) examined college readiness or college success outcomes for students in transition courses.

The challenge in exploring these issues is that many schools do not use the Kentucky Department of Education's official standardized course codes to identify their transition courses, as noted in Mokher (2014). Local course names were the only evidence for 20 percent of enrollments in transition courses in math and 24 percent of enrollments in transition courses in English language arts (see table A1 in the appendix). These course names are subject to interpretation and could result in inconsistencies when identifying courses. Continued efforts by local and state educators to improve data quality would allow more accurate identification of the courses that schools use to support college readiness. High data quality will be critically important for future efforts to evaluate the effectiveness of transition courses.

This study may underestimate participation in transition courses because schools do not consistently use the official state course codes to identify their courses

Finally, participation rates in transition courses are mostly lower for students in urban schools than for students in suburban, town, and rural schools, especially in math. This was also a finding in Mokher (2014). It may be worthwhile to further investigate the reason for this and other differences in participation rates across certain groups.

Limitations of the study

This study focused solely on full-semester, for-credit transition courses and does not account for other grade 12 interventions that schools may use (such as short-term modules or afterschool tutoring). No information was available on the content of the for-credit transition courses or how they vary by school (such as in technology or curriculum). And schools may offer transition courses that cannot be identified by state course code or course name. Therefore, this study may underestimate participation in transition courses because schools do not consistently use the official state course codes to identify their courses.

Another limitation is the difficulty in comparing enrollment records for 2014/15 with those reported for 2011/12 (Mokher, 2014). First, only reading courses were available in 2011/12, while both reading and English are available—as are combined English language arts courses—in 2014/15. Students in 2014/15 who did not meet benchmarks in reading or English may have enrolled in courses of any of the three types. Second, data entered after 2011/12 may have been influenced by training provided by the Kentucky Department of Education on the uses of course codes and names. So differences in reported participation rates between 2011/12 and 2014/15 may be due to changes in course coding practices rather than to enrollment changes.

Appendix. Identifying college preparatory transition courses

For this study college preparatory transition courses were identified in the state's student information system by state course code and by course name. This is the same method used in Mokher (2014).

Kentucky schools report course enrollments using a single, standardized student information system to improve data quality. Further, the Kentucky Department of Education instructs all Kentucky high schools to use its official course codes to identify transition courses in math (270718), reading (230195), and English (231295), but not all schools use the codes consistently. In addition, Kentucky has no requirement for uniform course names; course names are at the discretion of schools. Thus, variation exists within the system. For this study, the study team had to interpret course names and course codes in order to determine whether a student was enrolled in a transition course. Identifying transition courses required multiple steps.

First, the study team used the state course codes to identify transition course enrollments to include in the analysis. However, not all schools consistently used these codes for their courses. A large number of courses offered by schools had titles containing words such as "college," "readiness," and "transition" but were not identified as a transition course by the state codes.

The study team then used a second method based on course names to identify additional transition courses. The study team searched Kentucky's student information system for course names that included the words (or abbreviations for) "college," "readiness," "transition," or "CCR."

One additional complication in identifying transition courses was the need to separate transition courses in English and transition courses in reading. Observed course names included titles such as Transitional English & Reading and College/Career Readiness ELA. Because of such course naming approaches, and the lack of consistency in using state course codes, the study team combined all transition courses in reading and English into a single English language arts category.

Most enrollments in transition courses could be clearly identified by both state course code and course name (table A1). Others could be clearly identified by course code. However, over 20 percent of enrollments could be identified only through course names.

Table A1. Number and percentage of transition course enrollments by identification method, 2014/15

	Math		English language arts	
Identification method	Number	Percent	Number	Percent
Course code and course name	7,360	60.6	3,158	59.8
Course code only	2,356	19.4	882	16.7
Course name only	2,427	20.0	1,238	23.5
Total	12,143	100.0	5,278	100.0

Note: Enrollments are the unit of analysis; the analyses may include multiple counts of the same student because some students enrolled in more than one transition course.

Source: Authors' calculations based on data from the Kentucky Department of Education.

Notes

1. 09 RS SB 1/EN. Retrieved from http://cpe.ky.gov/nr/rdonlyres/09913afd-9097-4374-95a1-10c96060d134/0/senatebill1_2009regularsession.pdf.
2. Regional educational cooperatives are independent organizations that provide training, collective purchasing, and other services to member school districts.
3. States requesting an Elementary and Secondary Education Act flexibility waiver are required to identify priority, focus, and reward schools. Priority schools are those in the lowest 5 percent of Title I schools based on the achievement of all students, focus schools are those with the largest within-school achievement gaps, and reward schools are either the highest performing school or a high-progress school. In Kentucky there were 26 priority schools, 84 focus schools, and 14 reward schools in 2014/15, out of 284 total high schools.
4. Mokher (2014) addressed this question but did not state it explicitly as a research question. It is stated here for clarity and to provide more context for student-level participation results.
5. The current study does not examine pass rates in transition courses because they were consistently above 90 percent for all groups (Mokher, 2014), and no study has examined how pass rates correlate with college readiness.
6. Mokher (2014) did not analyze English scores.
7. Students in the meeting benchmarks category might nevertheless participate in a college preparatory transition course for several reasons. Schools may set their own guidelines for what ACT score range triggers participation in college preparatory transition courses, teachers or counselors may guide students to enroll in the courses, or students may voluntarily choose to take the courses if they intend to enroll in college after high school and want additional academic preparation.

References

ACT. (2010). *The alignment of Common Core and ACT's College and Career Readiness System*. Iowa City, IA: Author. Retrieved July 28, 2015, from http://www.act.org/standard/index.html.

Barnett, E. A., Fay, M. P., Bork, R. H., & Trimble, M. J. (2013). *Reshaping the college transition: States that offer early college readiness assessments and transition curricula* (Working paper). New York, NY: Columbia University, Teachers College, Community College Research Center. Retrieved July 28, 2015, from http://ccrc.tc.columbia.edu/publications/reshaping-the-college-transition-state-scan.html.

Cramer, E., & Mokher, C. (2015). *Stated Briefly: Participation and pass rates for college preparatory transition courses in Kentucky* (REL 2015–060). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. http://eric.ed.gov/?id=ED552339

Kentucky Department of Education. (2010). *Kentucky core academic standards—June 2010*. Frankfort, KY: Author. Retrieved May 29, 2013, from http://education.ky.gov/curriculum/docs/Documents/POS%20with%20CCS%20for%20public%20review.pdf.

Kentucky Department of Education. (n.d.). Transitional course frequently asked questions. http://education.ky.gov/educational/int/hscf/Documents/TransitionalCourseFrequentlyAskedQuestionsFinal.doc.

Mokher, C. (2014). *Participation and pass rates for college preparatory transition courses in Kentucky* (REL 2014–009). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Appalachia. http://eric.ed.gov/?id=ED544765

Southern Regional Education Board. (2011). *State College and Career Readiness Initiatives: Statewide transition courses for college readiness*. Atlanta, GA: Author. Retrieved July 28, 2015, from http://publications.sreb.org/2011/11E03_Trans%20Crs_Sum.pdf.

U.S. Department of Education, National Center for Education Statistics. (2015). Common Core of Data. Local Education Agency Universe Survey, 2013–14. Retrieved July 29, 2015, from http://nces.ed.gov/ccd.

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