

Readiness Courses:

Preparing Students for
College and Careers



SREB

Southern Regional
Education Board

The Southern Regional Education Board is a nonprofit and nonpartisan organization based in Atlanta, Georgia. SREB was created in 1948 by Southern governors and legislatures to help leaders in education and government work cooperatively to advance education and improve the social and economic life of the region. SREB has 16 member states: Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia. Each is represented by its governor and four gubernatorial appointees.

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Readiness Courses: Preparing Students for College and Careers

The backbone of American prosperity has been a strong, resilient workforce. But in the 21st century, workers can no longer rely on an abundance of low-skilled, good-paying jobs. Instead, there is an urgent need for schools to better prepare students with the academic skills they need to succeed in college and careers. If the U.S. is to maintain its competitiveness in a global economy, employers need qualified, innovative workers with more than a high school diploma. **Educators must ensure that students have the literacy and math skills necessary to succeed in college and on the job.**

The Southern Regional Education Board (SREB) works with states to increase college and career readiness. Over the past decade, SREB has encouraged states to adopt statewide college- and career-readiness initiatives described briefly below and in-depth in the publication: *State Policies to Support a Statewide College- and Career-Readiness Agenda*. One of the key goals in SREB's Challenge to Lead 2020 report is that 80 percent of all seniors graduate from high school college and career ready, yet current estimates are that only 40 percent do so. **A key component of SREB's agenda is the implementation of statewide senior-year transitional readiness courses in literacy and math.**



The need for these statewide, targeted college-readiness courses is based on two principles: 1) students should leave high school prepared for postsecondary education; and 2) given the extent of readiness deficits in this country, special and supplemental support is needed, at least until school reforms are completed, that target the most critical readiness skills.

States are implementing the SREB Readiness courses in literacy and mathematics, and SREB is documenting their effectiveness in preparing students for college-level course work. By addressing college readiness before students graduate from high school, states can increase the flow of high school graduates and reduce the need for remediation — ultimately improving college graduation rates and reducing college costs for students, parents and states.

The Readiness Crisis

There has always been a strong connection between education and economic development, but that link is tighter than ever. Anthony Carnevale of Georgetown University estimates that 65 percent of all jobs will require postsecondary education or training beyond high school by 2020. At the current rate of preparation, the nation will face a shortfall of five million workers in 2020. Carnevale notes:

“The post-Great Recession economy has divided the country along a fault line demarcated by college education. For those with at least some college education, the job market is robust. The economy has added 11.6 million jobs since the recession bottomed out — 11.5 million, or 99 percent of them, have gone to workers with at least some college education.”

Careers in health care and STEM (science, technology, engineering and math) fields are among the fastest-growing occupational clusters, making math and science education critical lynchpins in meeting the nation's workforce needs. In addition to making improvements in math and science, we must meet the challenge for stronger literacy skills, as communication and reading comprehension are among employers' most valued skills.

The current data are alarming, showing student deficiencies in literacy, math and science skills. According to ACT, seven SREB states — Alabama, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee — required all high school juniors to take the ACT exam in 2016. Less than 30 percent of those students meet the college-readiness benchmarks of 22 in math or 23 in science, while less than 35 percent meet the college-readiness benchmark of 22 in reading. Similarly, only 19 percent of students who earn an ACT National Career Readiness Certificate credential qualify at the Gold Level, which indicates the individual has the essential foundational skills — applied mathematics, reading for information and locating information — required by 93 percent of jobs in today's workforce.

The evidence is clear: The United States is in the midst of a crisis and faces ever-increasing educational and training demands in the workforce, while the majority of high school graduates do not possess the basic skills needed for success at the postsecondary level and beyond. Thomas Bailey of Columbia University’s Community College Research Center says these underprepared students enroll in and graduate from college at significantly lower rates, and this gap must be closed if the nation’s educational and training needs are to be met.

While efforts to improve remediation have been introduced in colleges and universities, meeting this challenge requires a new approach — one that is based in secondary schools, not in postsecondary education, which has proven ineffective in remediating most students. While colleges are beginning to experiment with new forms of remediation, the overwhelming sense is that students need to be helped much earlier — before entering postsecondary institutions. **The additional preparation time should take place during the high school years, when it will not create an additional financial burden on parents or students.**

States Implementing Readiness Programs

In *Essential Elements of State Policy for College Completion: Transition Courses for College and Career Readiness*, SREB identified a policy framework for states to use when implementing programs to increase student preparedness for postsecondary studies: (1) implement statewide college- and career-readiness standards; (2) assess students for college readiness no later than the junior year; (3) develop transitional courses to assist juniors and seniors who are underprepared for college-level course work, including professional development for the teachers of these transitional courses; (4) ensure that postsecondary education recognizes and applies the state readiness standards in college placement; and (5) adjust school and college accountability systems to include measures of students’ college readiness.

Since California State University (CSU) launched the **Early Assessment Program (EAP)** in 2002, Elizabeth Barnett of Columbia University’s Community College Research Center finds more

than 20 states followed CSU’s lead to implement early assessment programs and transition curricula to improve student readiness. SREB leads the way in developing transition curricula for states. SREB’s Literacy Ready and Math Ready courses are used in more than 10 states, often as part of a comprehensive readiness program such as the state of Washington’s **Bridge to College** and Georgia’s **Move on When Ready**.



States that adopted the readiness programs early now see the benefits of addressing readiness during the senior year. CSU’s Jessica Howell conducted an examination of postsecondary preparation and remediation in 2010 and found that students in CSU’s EAP are less likely to need remediation than those not in the program. Similarly, the Tennessee Higher Education Commission says the state has seen its need for remediation in math decline significantly since the implementation of the **SAILS** math program in 2013. The percentage of first-time college freshmen needing remediation has fallen from 69 percent in 2012 to 55 percent in 2015 — a 14 percent decline in three years.

Despite the progress in individual states, much work remains. Jennifer Zinth of **Education Commission of the States**, a national education policy organization, says only eight states mandate that unprepared students be offered intervention courses, and only six states require that identified students participate in the college-readiness intervention.

SREB Ready for College Courses

SREB offers two courses, Literacy Ready and Math Ready, designed to prepare students for college before they graduate from high school. These courses incorporate a pedagogical shift that increases student engagement through group work and projects. This move toward an active classroom is necessary to develop the communication, critical thinking and problem-solving skills that students need for success in college and careers. The SREB senior transition courses have been

implemented in several states, including Alabama, Arkansas, Georgia, Indiana, Kentucky, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, Washington and West Virginia.

Literacy Ready: Preparing Students to Read Complex Texts

This course utilizes a disciplinary literacy approach, teaching students strategies for reading and understanding complex texts in the subject areas of English, history and science. The course presents a challenging and interesting curriculum that prepares students for the rigors of postsecondary studies. Students learn to organize, develop and defend their ideas on a variety of topics, increasing their critical thinking and communication skills, both written and verbal.

Math Ready: Equipping Students With Problem-Solving Skills

This course emphasizes an understanding of math concepts, as opposed to memorizing facts. Students in Math Ready learn the context behind procedures and come to understand the reasons for using certain formulas and methods. Communication skills are developed as students are required to organize, present and discuss their approaches to solving a problem. By engaging students in real-world applications from a wide variety of topics, this course develops critical thinking skills that students will use in their careers.

“The SREB Readiness Courses provide a rigorous curriculum that meets the demands of students by ensuring they develop essential skills needed to be successful in postsecondary course work.”

Jean Massey, Mississippi Department of Education

“The curriculum of the SREB Readiness Courses is relevant for students in the courses. The pedagogy and content are designed to truly prepare students for success in college and beyond.”

Stacy Smith, Arkansas Department of Education

“SREB Literacy Ready provided the skills and tools needed to help my students achieve college and career readiness by the end of their senior year.”

Kristin Inman, Literacy Ready Teacher, Oxford High School, Mississippi

“My students’ math understanding and reasoning skills have improved by having to use different math concepts to solve multistep math problems.”

Phil Wesson, Math Ready Teacher, Sheridan High School, Arkansas

“Teachers and students in North Carolina are finding success with the SREB Ready for High School course as they work to transition from high school to college. The hands-on, conceptual approach to mathematical concepts that are presented in a coherent manner throughout the curriculum has benefitted students.”

Jennifer L. Curtis, North Carolina Department of Public Instruction

Measuring the Effectiveness of Readiness Courses

ACT establishes college-readiness benchmarks by tracking approximately 100,000 students in college-level courses each year to determine the level of performance needed to give students a reasonable expectation of success in freshman-level course work. Students meeting the college-readiness benchmark in a subject area have a 70 percent chance of getting a C or better, and a 50 percent chance of getting a B or better in their gateway college courses.

ACT identifies groups of scores in each content area: 13-15, 16-19, 20-23, etc. While state-readiness standards vary, states that utilize the ACT exam to determine placement into remedial courses often establish cutoff scores in the range of 18-20 for each of the content areas. Literacy Ready and Math Ready are designed for underprepared students who score within a few points of the college-readiness benchmarks, typically in the 16-19 range.

ACT Results: Before and After Readiness Courses

In spring 2016, SREB worked with schools in Arkansas and Mississippi to provide students in Literacy Ready and Math Ready courses the opportunity to retake the ACT exam. SREB has collected the data and analyzed students' ACT scores before and after taking SREB Readiness courses. The 2015 ACT scores were before students took Literacy Ready or Math Ready, and the 2016 ACT scores were after students took Literacy Ready or Math Ready. The results, which involve 15 high schools and 106 students in Literacy Ready, and 33 high schools and 545 students in Math Ready, are summarized in Tables 1 through 4.

Table 1 – ACT Results of Literacy Ready Students

ACT Exam	Average ACT Score Before Literacy Ready (2015)	Average ACT Score After Literacy Ready (2016)	Percentage of Students Who Improved	Is the Improvement Statistically Significant?
English	14.4	15.1	51	yes
Reading	16.5	16.3	45	no
Science	16.8	17.7	53	yes
Composite	16.0	16.6	50	yes

SREB analysis of ACT scores for 15 high schools and 106 students enrolled in Literacy Ready

Table 2 – Average Gains Among Literacy Ready Students Who Improved Their ACT Scores

ACT Exam	Average ACT Score Before Literacy Ready (2015)	Average ACT Score After Literacy Ready (2016)	Average Improvement on ACT Score
English	13.8	16.8	3.0
Reading	15.4	18.2	2.8
Science	15.7	19.3	3.6
Composite	15.6	17.8	2.2

SREB analysis of ACT average gains of the subset of Literacy Ready students who improved on ACT English, reading, science or composite scores

Students in Literacy Ready can increase their readiness for college-level course work; they gain valuable skills in the areas of English, history and science. Over 50 percent of the students tested increased their ACT scores in English and science, as well as their overall ACT score, with the typical gain being 3 or more points in English and science, and 2 or more points on the ACT composite score. While the overall average reading score did not improve, 45 percent of the students did improve their reading scores by an average of 2 or more points. Finally, the analysis of the data show that among Literacy Ready students within 3 points of a cutoff score in ACT English, reading or science, 40 percent would attain the state-readiness standard and not require remediation when entering college.

Literacy Ready Spotlight: Horn Lake High School

Horn Lake, Mississippi

At Horn Lake High School, *Literacy Ready* was implemented and served 12 students. Seven of the students improved their English score, while two-thirds of the students improved both their reading, science and composite scores on the ACT. The typical increase was more than 3 points in English and reading, more than 4 points in science, and more than 2 points on the composite score. Before *Literacy Ready*, none of the students had an ACT composite score higher than 17. After taking *Literacy Ready*, six of the 12 students had composite ACT scores of 18 or higher.

Table 3 – ACT Results of Math Ready Students

ACT Exam	Average ACT Score Before Math Ready (2015)	Average ACT Score After Math Ready (2016)	Percentage of Students Who Improved	Is the Improvement Statistically Significant?
Math	16.3	17.3	58	yes
Science	17.3	18.3	55	yes
Composite	16.8	17.8	62	yes

SREB analysis of ACT scores for 33 high schools and 545 students enrolled in Math Ready

Table 4 – Average Gains Among Math Ready Students Who Improved Their ACT Scores

ACT Exam	Average ACT Score Before Math Ready (2015)	Average ACT Score After Math Ready (2016)	Average Improvement on ACT Score
Math	15.9	18.3	2.4
Science	16.1	19.6	3.5
Composite	16.4	18.6	2.2

SREB analysis of ACT average gains of the subset of Math Ready students who improved on ACT math, science or composite scores

Students in Math Ready often experience gains in their abilities to understand and apply mathematical concepts, gaining skills they will need in both math and science in college-level course work. Approximately 60 percent of students increased their ACT math and science scores, as well as their overall ACT score, with the typical gain being 2 or more points in math, 3 or more points in science, and 2 or more points on the ACT composite score. These results parallel a before- and after-study in 2014-15 of 600 students taking the North Carolina Early Mathematics Placement Test (NC EMPT), which also showed significant gains in college mathematics readiness for students in Math Ready. Finally, the analysis of the data show that among Math Ready students within 3 points of a cutoff score in ACT math or science, over 35 percent of them would attain the state readiness standard and not require remediation when entering college.

Math Ready Spotlight: Little Rock Central High School

Little Rock, Arkansas

At Little Rock Central High School, the 134 students enrolled in Math Ready had impressive results. Among the 94 students with before and after ACT scores, two-thirds improved their ACT math score; 61 percent improved their science score; and 69 percent improved their ACT composite score. The typical gain was 2 or more points in math; 3 or more points in science; and 2 or more points on the ACT composite score. As a group, the math scores went from an average of 16.4 to 17.7. The science scores increased from an average of 16.7 to 17.8; and the ACT composite scores improved from an average of 16.9 to 18.2. Each of these gains is statistically significant.

Students Taking Both Literacy Ready and Math Ready

To examine the impact of implementing readiness courses in both literacy and math, SREB isolated those students in the ACT study who took both Literacy Ready and Math Ready. (See Table 5.) They showed across the board gains on the ACT, including an average gain of almost 5 points on the science score, which is directly related to reading and math, requiring students to read complex texts and use mathematics in related applications. (See Table 6.) **To maximize the impact of readiness courses, school leaders should implement senior transition courses in both literacy and math.**

Table 5 – ACT Results: 13 Students Taking Both *Literacy Ready* and *Math Ready*

ACT Exam	ACT Average Score Before Literacy Ready (2015)	ACT Average Score After Literacy Ready (2016)	Percentage of Students With Improved ACT Score
English	15.3	15.9	46
Reading	16.1	17.1	62
Math	16.0	16.5	54
Science	16.9	19.1	54
Composite	16.2	17.4	62

SREB analysis of ACT scores for Literacy Ready and Math Ready students

Table 6 – Average Gains Among Literacy Ready and Math Ready Students With Improved ACT Scores

ACT Exam	Average ACT Score Before Literacy Ready & Math Ready (2015)	Average ACT Score After Literacy Ready & Math Ready (2016)	Average Improvement on ACT Score
English	15.1	18.8	3.7
Reading	15.8	19.4	3.6
Math	15.6	16.7	1.1
Science	15.6	20.4	4.8
Composite	16.0	18.4	2.4

SREB analysis of ACT average gains of the subset of Literacy Ready and Math Ready students with improved ACT scores

Summary of Results and Implications for States

The SREB Readiness courses are moving the needle in terms of preparing students for success in postsecondary studies. The gains realized by students in Literacy Ready and Math Ready indicate the potential for increasing college readiness in literacy, math and science. By implementing a comprehensive readiness program, states can increase student preparedness for postsecondary studies, reduce the need for remediation in colleges and universities, and have a positive impact on college graduation rates.

The readiness standard for many states is an ACT content area score of 18 or 19, and often between 20 percent and 25 percent of the high school graduates fall within 3 points of the cutoff score. **By implementing transition courses for underprepared students during the senior year, states can significantly reduce the number of students entering college needing remediation.**

Based on lessons learned, SREB has formulated a set of recommendations for schools implementing readiness courses in literacy and math. Additionally, SREB has formulated recommendations for states looking to implement comprehensive readiness programs. Schools taking these steps can ensure their graduates have the skills needed for future success. States taking the recommendations position themselves to meet their future education and workforce training needs.

Increasing College Readiness: Recommendations for States

Given the readiness crisis, combined with the ever-increasing workforce training and education needs, the time to act is now. For states that have not implemented a comprehensive program to increase college readiness of high school graduates, SREB recommends the following steps.

- 1. Examine the states' workforce training needs and college-readiness data.** While data vary from state to state, the percentage of jobs requiring some form of postsecondary education will increase significantly over the next decade. State leaders should have data specific to their state, including the percentage of jobs requiring at least a two-year degree, and the percentage of incoming freshmen in state colleges and universities needing to take remedial classes.
- 2. Determine the extent of the readiness challenge by setting statewide readiness standard thresholds in literacy and math.** There should be statewide standards that relate to success in college degree programs and another set of standards applicable to career programs. Both sets should be developed based on empirical evidence of what it takes to succeed in various forms of postsecondary education.

- 3. Identify the most critical and fundamental postsecondary-readiness skills.** Ensure they are emphasized beginning in the middle grades and culminate in the senior year, including the transition courses. While math can be the more obvious challenge, reading and writing with comprehension across subject areas is an even more basic strategic challenge, which affects all achievement in school and postsecondary education.
- 4. Implement the kind of comprehensive agenda described above.** Provide transition courses for students assessed as not ready for college by their senior year and educate stakeholders of their benefits. By educating both parents and local school officials about the readiness program, the state can ensure its widespread adoption and success.
- 5. Engage higher education in the effort to increase college and career readiness.** Only by bringing the relevant stakeholders to the table can states increase college enrollment rates and graduation rates. High schools, colleges, career and technical education centers, and universities should be involved in joint efforts to address readiness.
- 6. Devise a data-collection system to ensure improvement and accountability.** Short-term and long-term data should be collected to improve the program. The flow of students from high school to postsecondary studies should be tracked, monitored and incorporated into the state's performance measures for both high schools and colleges.

Recommendations for Schools Implementing Transition Courses

- 1. Commit to a quality professional development program. Teachers must have extensive and engaging training to understand** the pedagogical shift and the classroom atmosphere needed so underprepared students will have success in transition courses. Online follow-up, classroom observations and peer discussions are critical to successful implementation.
- 2. Engage key school personnel and leadership.** School leaders, counselors and curriculum coaches should all be involved in the effort to increase student readiness. Teamwork and support are essential elements of a successful readiness initiative.
- 3. Select highly effective teachers for maximum impact.** The importance and potential impact of a successful readiness program cannot be understated. It is essential that energetic, passionate and creative teachers are involved in the program.
- 4. Educate both students and parents regarding the benefits of the program.** The more that students and parents understand the goals of the transition courses, the greater the impact can be on college enrollment rates. By increasing the flow of students from high school to college who do not need remediation, the cost of college can be reduced and college graduation rates can be positively impacted.
- 5. Implement both literacy and math courses for underprepared students.** School leaders must realize that problems exist in literacy, math and science, and only by implementing transition courses in literacy and math can schools prepare students for success beyond high school, regardless of their chosen field of study.

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