



# SREB



*2010*

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Education  
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## Establishing Benchmarks and Measuring Progress at *TCTW* Sites

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Center

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Committee Completing Document

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Contact Person/Site Coordinator

## Table of Contents

- Vision
- Conditions Expected of *Technology Centers That Work Sites*
- Assessment Guidelines
- Understanding the Indicators for the Comprehensive *TCTW* Framework
  - TCTW* Key Practices for Improving Student Achievement
  - TCTW* Key Conditions for Accelerating Student Achievement
- How to Use This Document
- Setting Interim Benchmarks in an Effort to Meet a 10-Year Goal
- Indicators for the Comprehensive *TCTW* Framework
  - Meeting *HSTW* Readiness Goals
  - Emphasis on Setting and Helping Students Meet High Expectations
    - High Expectations
    - Perceived Importance of High School Studies
    - Extra Help
    - Habits of Success
    - Guidance
  - Emphasis on Rigorous Programs of Study and Quality Career/Technical Studies
    - Program of Study
    - Career/Technical Studies
    - Work-Based Learning
  - Emphasis on Engaging Students in Challenging Content
    - English Curriculum/Literacy Across the Curriculum
    - Mathematics Curriculum/Numeracy Across the Curriculum
    - Science Curriculum/Engaging Science Experiences
    - Engaging Learning Strategies
    - Engaging Instructional Strategies
  - Emphasis on Integrating Academic and Career/Technical Content
    - Integrating Academic Content and Skills
    - Teacher Collaboration
  - Emphasis on Transitions
    - Middle Grades and High School to Technology Center
    - Technology Center to Postsecondary Studies and Careers
  - Setting a Clear Mission and Vision for Success
  - Focusing on Continuous Improvement and Demonstrating Strong Leadership
  - Supporting the Staff with Professional Development
- Setting Additional Benchmarks

## Vision

Centers that join the *Technology Centers That Work (TCTW)* network are expected to show progress in changing center and classroom practices in ways that improve student achievement and readiness for postsecondary studies and careers. Centers are expected to focus on practices that have proven most effective in advancing student achievement.

True school reform is not a quick process. It is a continuous effort to make purposeful and planned changes in center and classroom practices that will result in steady progress in student achievement. Center leaders must focus on closing gaps in school and classroom practices. Focusing on research-based indicators for all groups of students will help centers close achievement gaps, leading to higher percentages of all students meeting the readiness goals. **States and SREB expect TCTW sites to show consistent progress until the comprehensive school improvement framework is fully implemented; 85 percent of all students meet the HSTW readiness goals in reading, mathematics and science; and 90 percent of students graduate from high school on time.**

## Actions *Technology Centers That Work* Sites Agree to Take

Centers participating in the *TCTW* network agree to do the following:

1. Have site leaders — superintendents, school board members, the principal/director and a core group of teachers — examine the Goals and Key Practices and decide if *TCTW* is viable for the school and the community. If so, they commit to at least a five-year implementation effort and require most or all students to take a career/technical concentration and ready academic core.
2. Appoint someone at the district level and at the school site to coordinate *TCTW* action planning, professional development and technical assistance; coordinate data collection; monitor progress; foster communication; and integrate the *TCTW* Goals and Key Practices with other school improvement efforts.
3. Support academic and career/technical teachers with professional development, materials and time to work together to implement the Key Practices.
4. Promote student participation in a system of school- and work-based learning that integrates academics with applied learning.
5. Organize an overall school leadership team composed of key academic and career/technical teachers and administrators; guidance counselors; parents; and representatives of business, industry and postsecondary education. Establish leadership teams aligned to the overall leadership team to address curriculum, guidance, evaluation, professional development and transitions.
6. Prepare an action plan for implementing the Key Practices and a site-specific staff development plan to help teachers carry out the action steps.
7. Participate in the biennial *High Schools That Work (HSTW)* Assessment, teacher survey and follow-up survey of graduates to obtain base-line data and to measure progress in raising student achievement.

8. Host a TAV involving a team led by SREB or the state to review progress made and determine challenges to address to raise student achievement.
9. Participate in district leadership activities, state staff development activities and the Annual *HSTW* Staff Development Conference.
10. Become an active member of a state and multi-state network for sharing information and ideas.

### Assessment Guidelines

All *TCTW* and *HSTW* sites participate in the *HSTW* Assessment in even-numbered years, though *TCTW* sites participate in a separate teacher survey. All centers must follow SREB's guidelines when administering the *HSTW* Assessment to seniors. Centers should use one of the following options for selecting seniors to participate in the assessment:

- Test a random sample of 60 or more seniors.
- Test all seniors.
- Test a random sample of 60 or more seniors completing a career/technical concentration.
- Test all seniors completing a career/technical concentration.

In selecting students, centers must follow these guidelines:

- Use the sample instructions provided to select a random sample.
- Include special-needs and English-language learners in the assessment, including relevant accommodations, under the conditions stated in their individualized educational plans (IEPs) regarding participation in state assessments.
- Ensure all students complete all four components: the student survey and subject tests in reading, mathematics and science.

## Understanding the Indicators for the Comprehensive *TCTW* Framework

The indicators used for the comprehensive *TCTW* framework are strongly associated with improving academic achievement. They come from *TCTW*'s 10 Key Practices and seven Key Conditions.

### *TCTW* Key Practices for Improving Student Achievement

*TCTW* has identified a set of Key Practices that impact student achievement. Following are the *TCTW* Key Practices that provide direction and meaning to comprehensive school improvement and student learning:

- **High expectations** — Motivate more students to meet high standards by integrating high expectations into career/technical and academic classroom practices and giving students frequent feedback.
- **Program of study** — Require each student to complete a career-focused program of study including both a concentration of at least four career/technical courses and a college-ready academic core leading to better preparation for postsecondary studies and advanced training.

- **Academic studies** — Teach more students the essential concepts of the college-preparatory curriculum by encouraging them to apply academic content and skills to real-world problems and projects within their CT studies.
  - Align CT courses to essential state and national academic and CT standards that prepare students for postsecondary studies and careers.
  - Align core academic courses to essential state and national standards that prepare students for postsecondary studies and careers.
  - Align student assignments, student work and classroom assessments to college- and career-readiness standards as measured by the *HSTW* Assessment, state assessments, college placement exams and employer certification exams.
- **Career/technical studies** — Provide students with access to intellectually demanding CT studies in high-demand fields that emphasize higher-level mathematics, science, literacy and problem-solving skills needed in the workplace and in further education.
  - Create new courses that blend academics and technical content, and use applied teaching methods and new measures of academic and technical proficiency.
  - Develop standards, conditions and agreements for awarding postsecondary credit in high-demand CT fields to high school students.
  - Require students to complete senior projects aligned with academic, technical and performance standards.
  - Provide students with opportunities to earn a recognized employer certification.
  - Include 21st-century skills and all aspects of industry in each student’s learning experiences.
- **Teachers working together** — Provide teachers with time and support to work together to help students succeed in challenging CT and academic studies. Embed reading, writing and speaking as strategies for learning into all parts of the curriculum, and embed mathematics and science into career/technical courses through authentic problems, projects and other learning activities. Technology center leaders need to support CT and academic teachers to engage students in reading books and articles, writing, making presentations, using high-level reasoning and thinking skills.
- **Work-based learning** — Enable students and their parents to choose a program of study that integrates challenging academic career/technical studies and work-based learning and is planned by educators, employers and students. Strive to make work-based learning a part of each student’s learning through internships, job shadowing and formal work-study programs.
- **Students actively engaged** — Engage students in CT and academic classrooms in rigorous and challenging assignments using research-based strategies and technology.
- **Guidance** — Work with the home high school staff to create a guidance and advisement system that involves students and their parents in planning a career-focused program of academic and career studies. Provide each student with the same mentor throughout high school — at the home high school and at the technology center — to assist with setting goals, selecting courses, reviewing the student’s progress and suggesting appropriate interventions as necessary.
  - Hold an annual meeting with students, parents and their mentors to review progress and develop plans for the next year.
  - Develop efforts to educate middle grades parents, school leaders, and students about the achievement level needed for challenging high school and CT studies and to educate high school parents, students and teachers about the achievement level needed for postsecondary study and high-demand, high-income jobs.

- **Extra help** — Provide a structured system of extra help to assist students in completing accelerated programs of study with high-level academic and technical content.
  - Support all CT students to become independent learners by giving them opportunities to practice the habits of successful learners, such as study and literacy skills, time management and cooperative learning.
  - Give students easy access to opportunities to meet course standards and graduate on time with their peers.
  - Support teachers in forming nurturing relationships with CT students aimed at improving students' work and achievement.
  - Establish a system to analyze student progress on technology center standards and provide remediation focused on CT skills to ensure students can pass both hands-on performance and written certification exams.
  - Identify 11th-grade CT students who are not ready for postsecondary study and employment. Use the senior year to implement special strategies and courses to get these students prepared for their planned next step — further study, work or both.
- **Culture of continuous improvement** — Use a variety of data — student assessments, program evaluation data, technology center performance reports, program enrollment, retention and placement reports, college remediation reports, student follow-up reports and advisory committee input — to continuously improve school culture, organization, management, curriculum and instruction to advance student learning.

## ***TCTW* Key Conditions for Accelerating Student Achievement**

*Technology Centers That Work* believes everyone — teacher, school, district and state leaders — must work together to align policies, resources, initiatives and accountability efforts to support high schools and technology centers as they adopt and implement comprehensive school improvement design. The *TCTW* Key Conditions include the following:

- **A clear, functional mission statement:** Technology centers have a clear, functional mission to prepare students for employment, advanced career training and postsecondary studies.
- **Strong leadership:** Each technology center and home high school has strong and committed leaders to improve, align and benchmark curricula to high standards; to improve the quality of instruction; and to raise academic and technical achievement. The leadership team at each technology center should include the campus director, assistant director, counselors and teacher leaders. School and district teams participate in annual leadership development workshops aimed at more fully implementing the *TCTW* design.
- **Plan for continuous improvement:** Technology center leaders create an organizational structure and process that ensures continuous faculty involvement in determining what to teach; how to teach it; what students are expected to learn; how to assess what they have learned; and how faculty members relate to each other, to the students, to the home high school, to families and to the community.
- **Qualified teachers:** Technology center teachers have in-depth knowledge of their CT field and of the most essential academic skills needed for continued learning and training. Further, they have knowledge of the 21st-century skills their students will need for success in careers and postsecondary studies and of all aspects of industry related to their CT field. Technology center teachers must be able to plan and deliver effective instruction and, to do so, must understand not

only their CT field, but their students' talents, interests and aspirations. They must be equipped with instructional planning tools for developing course syllabi, mapping curriculum, and planning effective project-based units and lessons.

- **Commitment to goals:** School leaders and teachers are committed to achieving the *TCTW* Goals and implementing the Key Practices. School boards are committed to having all students complete a career/technical concentration and a rigorous academic core. Continuous review of local policies and practices ensures that a strong message of high expectations is sent to the school administration, faculty, staff and the home high school(s).
- **Flexible scheduling:** Technology center leaders and school boards work with home high schools to adopt flexible schedules enabling students to attend technology centers, complete a ready academic core, and earn college credit and industry certifications.
- **Support for professional development:** Technology center leaders provide teachers with instructional materials, planning time and professional development for implementing new curricula and research-based instructional methods.

### How to Use This Document

Centers should begin by developing leadership teams as outlined in the SREB site development guide *Developing Effective Leadership Teams — Implementing the High Schools That Work Improvement Design*. Refer to this document for more information on developing leadership teams. One overall leadership team, the school improvement leadership team, coordinates the site action plan and the activities of the individual leadership teams: curriculum, professional development, guidance and public information, transition, and evaluation.

The school improvement leadership team should assign the evaluation leadership team ultimate responsibility for the completion and use of the following document containing indicators for the comprehensive *TCTW* framework. This document should be used to assist in verifying if student achievement has improved and if goals have been met. The evaluation leadership team should begin by compiling baseline data for this report. This team should then involve other school improvement teams in establishing benchmark goals for each two-year interval based on their area of concentration. **The teams should work together to update the center improvement plan for accomplishing those goals and then share the results with the whole faculty.** The evaluation leadership team will continually update this document and initiate review processes in which the other center improvement teams review the center's progress and evaluate and modify goals as necessary.

The student indicators presented in this document are based on information presented in the benchmark section of the *HSTW* Assessment Report (*Summary of Results on Indicators for High School Improvement*). Teacher indicators are based on information presented in the *TCTW* Teacher Survey Report. Additional data will come from center records (center-based data).

## Setting Interim Benchmarks in an Effort to Meet a 10-Year Goal

To achieve a 10-year goal, centers should establish interim benchmarks on key indicators regarding changes to be made in center and classroom practices. While this document has been laid out as a 10-year plan, centers can make necessary adjustments to use a shorter goal (e.g., six years). The important point is not only to set goals but also to determine actions center leaders and teachers must take to meet those target goals. To determine interim benchmarks:

- Subtract your center's baseline percentage from the 10-year goal.
- Divide that total by five to get the change needed each year.
- Determine the goal for your next assessment year by adding one-fifth of the difference between the baseline and the target 10-year goal.
- Repeat the process for the remaining intermediate years.

The following example uses 2010 as the baseline year with 2020 as the 10-year goal.

### *Example:*

High Expectations	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
Students reported that their teachers <b>often</b> set high standards for them and were willing to help them meet them.	35%	45%	55%	65%	75%	85%

- Difference between Baseline (2010) and 10-Year Goal (2020):  $85\% - 35\% = 50\%$
- Change needed every two years:  $50\% \div 5 = 10\%$
- Benchmark for 2012: (Baseline % + Growth %)  $35\% + 10\% = 45\%$
- Benchmark for 2014: (Baseline % + Growth %)  $45\% + 10\% = 55\%$
- Benchmark for 2016: (Baseline % + Growth %)  $55\% + 10\% = 65\%$
- Benchmark for 2018: (Baseline % + Growth %)  $65\% + 10\% = 75\%$
- Benchmark for 2020: (Baseline % + Growth %)  $75\% + 10\% = 85\%$

## Indicators for the Comprehensive TCTW Framework

### Meeting HSTW Readiness Goals

- Raise the reading, mathematics, science, communication, problem-solving and technical achievement of all students to college- and career-ready levels.

Indicators — Meeting HSTW Readiness Goals	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
1. The percentage of students <b>meeting</b> the reading readiness goal of 250						85%
2. The percentage of students <b>meeting</b> the mathematics readiness goal of 257						85%
3. The percentage of students <b>meeting</b> the science readiness goal of 258						85%
4. The percentage of students graduating from high school on time (using a cohort or averaged freshman graduation rate).						90%

Source: Benchmark Section of HSTW Assessment Report

Note: New subject tests were administered in 2008. As a result, 2008 mean scores and readiness goals are not directly comparable to previous years. The 2008 data should be used as the baseline.

### Emphasis on Setting and Helping Students Meet High Expectations

- **High Expectations** — Set higher expectations for all students and help students meet them.
- **Perceived Importance of High School Studies** — Help students understand the importance of high school in preparing for the future.
- **Extra Help** — Provide a structured system of extra help to enable students to complete an accelerated program of study that includes high-level academic content and a concentration.
- **Habits of Success** — Help each student develop and utilize the basic organizational and study skills needed for success.
- **Guidance** — Involve each student and his or her parents in a guidance and advisement system aimed at ensuring the completion of an accelerated program of study with a career/technical or academic concentration that is aligned with the student's post-high school goals.

Indicators — High Expectations	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
5. The percentage of student responses on 10 indicators that suggest the school has an <b>intensive</b> emphasis on high expectations (nine to 10 indicators)						60%
6. Students reported that their teachers <b>often</b> knew their subject and made it interesting and useful.						80%

<b>Indicators — High Expectations</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
7. Students reported that their teachers <b>often</b> set high standards for them and were willing to help them meet them.						80%
8. Students reported that their teachers <b>often</b> clearly indicated the amount and quality of work that were necessary to earn a grade of A or B at the beginning of a project or unit.						85%
9. Students reported that their teachers <b>often</b> cared about them enough that they would not let them get by without doing the work.						80%
10. Students reported that most of their teachers <b>often</b> encouraged them to do well in school.						80%
11. Students reported that their courses <b>sometimes or often</b> were exciting and challenging.						80%
12. Students reported that they <b>often</b> worked hard to meet high standards on assignments.						80%
13. Students reported that they <b>somewhat or strongly agreed</b> that with hard work, they could understand the material being taught in their classes.						80%
14. Students reported that they <b>somewhat or strongly agreed</b> that the grades they received were the result of the amount of effort they put forth in their classes.						80%
15. Students reported that they usually spent <b>one or more hours</b> on homework each day.						80%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Perceived Importance of High School Studies</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
16. The percentage of student responses on 10 indicators that suggest the school has an <b>intensive</b> emphasis on helping students understand the importance of high school studies to their future (nine to 10 indicators)						75%
17. Students reported that they <b>often</b> tried to do their best work in school.						85%

<b>Indicators — Perceived Importance of High School Studies</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
18. Students reported that they <b>often</b> knew when projects were due.						85%
19. Students reported that they <b>often</b> actively managed their time in order to complete assignments.						85%
20. Students reported that they <b>often</b> kept their notes and handouts for each class separate.						85%
21. Students reported that it is <b>very important</b> to attend all of their classes.						95%
22. Students reported that it is <b>very important</b> to participate actively in class.						85%
23. Students reported that it is <b>very important</b> to study hard to get good grades.						85%
24. Students reported that it is <b>very important</b> to take a lot of college-preparatory classes.						80%
25. Students reported that it is <b>very important</b> to graduate from high school.						100%
26. Students reported that it is <b>very important</b> to continue their education beyond high school.						100%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Extra Help</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
27. The percentage of student responses on six indicators that suggest the school has an <b>intensive</b> emphasis on providing quality extra help (five to six indicators)						60%
28. Students reported that their teachers <b>often</b> encouraged students to help each other and to learn from each other.						75%
29. Students reported that they <b>often</b> were able to get extra help from their teachers when they needed it without much difficulty.						75%
30. Students reported that their teachers <b>frequently</b> were available before, during or after school to help them with their studies.						75%

<b>Indicators — Extra Help</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
31. Students reported that the extra help they received <b>often</b> helped them to understand their schoolwork better.						75%
32. Students reported that the extra help they received <b>often</b> helped them to make a greater effort to meet expectations.						75%
33. Students reported that the extra help they received <b>often</b> helped them to get better grades.						75%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Habits of Success</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
34. Students reported that they <b>often</b> arrived to class on time.						85%
35. Students reported that they <b>often</b> used a daily planner or agenda book.						70%
36. Students reported that they <b>often</b> outlined and took notes from the textbook.						70%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Guidance</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
37. The percentage of student responses on 10 indicators that suggest the school has an <b>intensive</b> emphasis on providing timely guidance to all students (seven to 10 indicators)						85%
38. Students reported that their teachers or counselors <b>often</b> encouraged them to take more challenging English courses.						85%
39. Students reported that their teachers or counselors <b>often</b> encouraged them to take more challenging mathematics courses.						85%
40. Students reported that their teachers or counselors <b>often</b> encouraged them to take more challenging science courses.						85%
41. Students reported that when planning and reviewing their high school four-year education plan, they talked with their parents, step-parents or other adults whom they lived with <b>at least once a year</b> .						95%

Indicators — Guidance	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
42. Students reported that they reviewed the sequence of courses they planned to take throughout high school <b>at least once a year</b> .						85%
43. Students reported that they were <b>very satisfied</b> with the help they received at school in the selection of high school courses.						85%
44. Students reported that a teacher or counselor talked to them individually about their plans for a career or further education after high school.						100%
45. Students reported that they and/or their parents (or step-parents/guardians) received information or assistance from someone at their school in selecting or applying to college.						90%
46. Students reported that someone from a college talked to them about going to college.						95%
47. Students reported that they spoke with or visited someone in a career that they aspire to.						85%
48. Students reported that they received the most help in planning their high school education plan of studies <b>by the end of the ninth grade</b> .*						85%
49. Students reported that they had an adult mentor or adviser who worked with them for all four years of high school.*						90%

Source: Benchmark Section of *HSTW* Assessment Report

\*This item is not included in the *HSTW* Selected Indices of Curriculum and Instructional Practices Associated with Student Achievement as reported in the *HSTW* Assessment Report but has been included here as it adds value to documenting school improvement efforts. This symbol will be used throughout this document to indicate such items.

## Emphasis on Rigorous Programs of Study and Quality Career/Technical Studies

- Program of Study** — Ensure that 85 percent of all high school graduates complete a ready academic curriculum and a concentration. A ready academic curriculum includes at least four courses in college-preparatory English/language arts, at least four courses in college-preparatory mathematics, at least three years of laboratory-based science, and a concentration in an academic (i.e., mathematics/science or the humanities) or a career/technical area. A career/technical concentration consists of four courses in a broad technical or career field or major. A humanities concentration consists of four or more courses each in college-preparatory/honors English/language arts and college-preparatory/honors social studies, with at least one course at the Advanced Placement level, and four additional courses in one or more of the humanities,

such as foreign language, fine arts or additional literature or social studies courses. A concentration in mathematics and science consists of four courses each in college-preparatory/honors mathematics and science, including at least one course at the Advanced Placement level.

- **Career/Technical Studies** — Increase access to challenging academic and career/technical studies, with a major emphasis on using high-level mathematics, science, language arts and problem-solving skills in the context of modern workplace practices and in preparation for continued learning.
- **Work-Based Learning** — Provide students with access to a structured system of work-based learning that is collaboratively planned by educators, employers and employees and results in an industry-recognized credential and employment in a career pathway.

Indicators — Program of Study	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
50. The percentage of students who <b>fully</b> completed the <i>HSTW</i> -recommended curriculum (all three subjects)						85%
51. The percentage of students who completed at least four courses in college-preparatory English/language arts						85%
52. The percentage of students who completed at least four courses in college-preparatory mathematics, including Algebra I, geometry, Algebra II and a higher-level course such as trigonometry, statistics, pre-calculus, calculus or Advanced Placement mathematics						85%
53. The percentage of students who completed at least three courses in science, including at least two courses in college-preparatory biology, chemistry, anatomy/physiology or physics/applied physics						85%
54. The percentage of students who completed <b>at least one</b> concentration in a career/technical area, mathematics/science or the humanities						85%
55. The percentage of students who received the <i>HSTW</i> Award of Educational Achievement <sup>†</sup>						60%
56. The percentage of students completing a computer course or demonstrated proficiency in computer technology (beyond simple keyboarding).						100%

<sup>†</sup>To earn the *HSTW* Award of Educational Achievement, students must score at or above SREB's readiness goals in reading, mathematics and science on the *HSTW* Assessment and complete a college-preparatory curriculum consisting of at least two of the following: four courses in college-preparatory English/language arts, four courses in college-preparatory mathematics and three courses in science with at least two courses at the college-preparatory level. They also must complete a career/technical, mathematics/science or humanities concentration.

Source: Benchmark Section of *HSTW* Assessment Report, Center-Based Data

Indicators — Career/Technical Studies	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
57. The percentage of career/technical student responses on eight indicators that suggest the school has an <b>intensive</b> emphasis on quality career/technical studies (six to eight indicators)						60%
58. CT students reported that they took a mathematics course during their senior year.						85%
59. CT students reported that they took a science course during their senior year.						85%
60. CT students reported that they were encouraged to take a combination of academic and career/technical courses.						100%
61. CT students reported that they completed a senior project that included researching a topic, creating a product or performing a service and presenting it to the class or others.						75%
62. CT students reported that they had challenging assignments in their career/technical classes <b>at least monthly</b> .						85%
63. CT students reported that they completed a project that first required some research and a written plan before completing the task in their career/technical classes <b>at least once a semester</b> .						85%
64. CT students reported that they used computer software or other technology related to their career/technical area to complete assignments <b>at least weekly</b> .						85%
65. CT students reported that they made journal or lab manual entries that recorded their class work in their career/technical classes <b>at least weekly</b> .						85%
66. CT students reported that they had an expert outside the school evaluate their work, products, projects or accomplishments.*						75%
67. CT students reported that they took a performance test containing industry standards they had to meet to pass the test.*						75%
68. The percentage of CT students earning a credential by passing a state-approved employer certification exam or						70%

Indicators — Career/Technical Studies	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
completing a career/technical program of study and meeting readiness standards for continued learning and advanced training toward an associate's or bachelor's degree*						

Source: Benchmark Section of *HSTW* Assessment Report

Indicators — Work-Based Learning	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
69. The percentage of student responses on nine indicators that suggest the school has an <b>intensive</b> emphasis on providing quality work-based learning experiences (seven to nine indicators)						65%
70. Students reported that they observed veteran workers performing certain jobs.						85%
71. Students reported that they had someone teach them how to do the work.						85%
72. Students reported that they received school credit for their work experience.						85%
73. Students reported that their employers encouraged them to develop good work habits <b>at least monthly</b> .						85%
74. Students reported that their employers encouraged them in their academic studies at school <b>at least monthly</b> .						85%
75. Students reported that their employers encouraged them to develop good customer relations skills <b>at least monthly</b> .						85%
76. Students reported that their employers encouraged them to develop good teamwork skills <b>at least monthly</b> .						85%
77. Students reported that their employers showed them how to use communication skills (reading, writing, speaking) in job-related activities <b>at least monthly</b> .						85%
78. Their employers showed them how to use mathematics in job-related activities <b>at least monthly</b> .						85%

Source: Benchmark Section of *HSTW* Assessment Report

Note 1: Percentages reported are based on all students who reported having a job as part of a formal work or training program in the past 12 months.

Note 2: Due to changes in the survey, 2010 work-based learning data is not comparable to previous years and should be used as the baseline.

## Emphasis on Engaging Students in Challenging Content

- **Students Actively Engaged** — Engage each student in the learning process through literacy across the curriculum, numeracy across the curriculum, engaging science practices, engaging learning strategies and engaging instructional strategies.

Indicators — English Curriculum/Literacy Across the Curriculum	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
79. The percentage of student responses on 10 indicators that suggest the school has an <b>intensive</b> emphasis on literacy across the curriculum (eight to 10 indicators)						60%
80. Students reported that they <b>often</b> revised their essays or other written work several times to improve their quality.						80%
81. Students reported that they <b>sometimes or often</b> were asked to write in-depth explanations about a class project or activity.						85%
82. Students reported that they completed short writing assignments of one to three pages for which they received a grade in their English classes <b>at least monthly</b> .						85%
83. Students reported that they completed short writing assignments of one to three pages for which they received a grade in their science classes <b>at least monthly</b> .						85%
84. Students reported that they completed short writing assignments of one to three pages for which they received a grade in their social studies classes <b>at least monthly</b> .						85%
85. Students reported that they read an assigned book and demonstrated understanding of the significance of the main ideas <b>at least monthly</b> .						85%
86. Students reported that they analyzed works of literature in class <b>at least weekly</b> .						85%
87. Students reported that they discussed or debated topics with other students about what they read in English or language arts classes <b>at least monthly</b> .						85%
88. Students reported that they drafted, rewrote and edited writing assignments before being given a grade <b>at least monthly</b> .						85%

<b>Indicators — English Curriculum/Literacy Across the Curriculum</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
89. Students reported that they stood before the class and made an oral presentation on a project or assignment to meet specific quality requirements <b>at least once a semester</b> .						85%
90. Students reported that they read and interpreted scientific or technical books and manuals <b>at least monthly</b> .*						85%
91. Students reported that they <b>often</b> used word-processing software to complete an assignment or project.*						85%
92. Students reported that they wrote a major research paper (with footnotes and bibliography) in their English classes <b>at least once a year</b> .*						85%
93. Students reported that they read <b>eight or more</b> books this year in English class.*						75%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Mathematics Curriculum/Numeracy Across the Curriculum</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
94. The percentage of student responses on eight indicators that suggest the school has an <b>intensive</b> emphasis on numeracy across the curriculum (seven to eight indicators)						60%
95. Students reported that they used math in classes other than mathematics <b>at least monthly</b> .						75%
96. Students reported that their mathematics teachers <b>sometimes or often</b> showed how mathematics concepts are used to solve problems in real-life situations.						85%
97. Students reported that they <b>often</b> developed and analyzed tables, charts and graphs in their school work.						85%
98. Students reported that they solved mathematics problems with more than one possible answer <b>at least monthly</b> .						85%
99. Students reported that they solved mathematics problems other than those found in the textbook <b>at least monthly</b> .						85%
100. Students reported that they were assigned word problems in mathematics <b>at least monthly</b> .						85%

<b>Indicators — Mathematics Curriculum/Numeracy Across the Curriculum</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
101. Students reported that they used a graphing calculator to complete mathematics assignments <b>at least weekly</b> .						85%
102. Students reported that they worked in a group to brainstorm how to solve a mathematics problem <b>at least monthly</b> .						85%
103. Students reported that they completed Algebra I in the 6th, 7th or 8th grade.*						85%
104. Students reported that they took a mathematics course during their senior year.*						95%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Science Curriculum/Engaging Science Experiences</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
105. The percentage of student responses on eight indicators that suggest the school has an <b>intensive</b> emphasis on challenging and engaging science curriculum and instruction (nine to 10 indicators)						60%
106. Students reported that their science teachers <b>often</b> showed how scientific concepts are used to solve problems in real-life situations.						75%
107. Students reported that they read an assigned article or book (other than a textbook) dealing with science <b>at least monthly</b> .						75%
108. Students reported that they used science equipment to do science activities in a classroom or laboratory <b>at least weekly</b> .						85%
109. Students reported that they used computers or technology to do science activities <b>at least monthly</b> .						85%
110. Students reported that they used graphs, charts and diagrams to interpret and explain scientific phenomena <b>at least monthly</b> .						85%
111. Students reported that they used formulas and equations to solve questions in science <b>at least weekly</b> .						85%

<b>Indicators — Science Curriculum/Engaging Science Experiences</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
112. Students reported that they collected data from experiments and created graphic representations of the results <b>at least monthly</b> .						85%
113. Students reported that they prepared a written report of their lab results <b>at least monthly</b> .						85%
114. Students reported that they participated in a classroom discussion relating science to everyday life <b>at least monthly</b> .						85%
115. Students reported that they worked with other students in their class on a challenging science assignment or project <b>at least monthly</b> .						95%
116. Students reported that they took a science course during their senior year.*						95%
117. Students reported that they completed a laboratory assignment in which they used science to address a problem found in their community <b>at least once a semester</b> .*						75%
118. Students reported that they participated in a classroom discussion about current science-related stories in the news <b>at least monthly</b> .*						75%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Engaging Learning Strategies</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
119. Students reported that they used knowledge and skills from different courses <b>at least monthly</b> .						85%
120. Students reported that they used computer skills or programs <b>at least monthly</b> .						85%
121. Students reported that they used the internet to retrieve information for a project or report <b>at least monthly</b> .						95%
122. Students reported that they <b>never or seldom</b> failed to complete or turn in their assignments.						80%
123. Students reported that they <b>sometimes or often</b> were part of a team or small group in class.						95%

<b>Indicators — Engaging Learning Strategies</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
124. Students reported that they <b>sometimes or often</b> were able to choose topics for research or project work.						85%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Engaging Instructional Strategies</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
125. Teachers reported requiring students to use word processing to complete an assignment or project <b>at least weekly</b> .						85%
126. Teachers reported requiring students to complete computer-assisted research/assignments <b>at least once a semester</b> .						85%
127. Teachers reported requiring students to develop and analyze tables, charts and graphs in schoolwork <b>at least weekly</b> .						85%
128. Teachers reported requiring students to work on open-ended problems for which there was no immediately obvious method of solution <b>at least monthly</b> .						85%
129. Teachers reported requiring students to work on an extended, major project that lasted one week or more <b>at least once a semester</b> .						85%
130. Teachers reported requiring students to work in cooperative groups or teams to deepen understanding of content <b>at least weekly</b> .						85%
131. Teachers reported including all of the following forms of assessment in students' course grades: projects or practical/laboratory exercises; portfolio of student work; teacher-made open-ended tests; and end-of-course exam in their content area that is used center-wide.						85%

Source: *TCTW* Teacher Survey Report

## Emphasis on Integrating Academic and Career/Technical Content

- **Integrating Academic Content and Skills** — Engage students in activities that integrate academic content and skills into career/technical courses.
- **Teacher Collaboration** — Establish organizational structures and schedules that give academic and career/technical teachers time to plan and provide integrated instruction aimed at teaching high-level academic and career/technical content.

Indicators — Integrating Academic Content and Skills	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
132. The percentage of career/technical student responses on eight indicators that suggest the school has an <b>intensive</b> emphasis on integrating academic content and skills into career/technical courses (six to eight indicators)						60%
133. CT students reported that they read and interpreted technical books and manuals to complete assignments in their career/technical classes <b>at least weekly</b> .						75%
134. CT students reported that they read a career-related article and demonstrated understanding of the content in their career/technical classes <b>at least monthly</b> .						75%
135. CT students reported that they used computer skills to complete an assignment or project in their career/technical classes <b>at least weekly</b> .						75%
136. CT students reported that they used mathematics to complete challenging assignments in their career/technical classes <b>at least weekly</b> .						75%
137. CT students reported that their career/technical teachers <b>sometimes or often</b> stressed reading.						85%
138. CT students reported that their career/technical teachers <b>sometimes or often</b> stressed writing.						85%
139. CT students reported that their career/technical teachers <b>often</b> stressed mathematics.						75%
140. CT students reported that their career/technical teachers <b>often</b> stressed science.						75%
141. CT students reported that they used database or spreadsheet software to complete an assignment or project <b>at least monthly</b> .*						75%

<b>Indicators — Integrating Academic Content and Skills</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
142. CT students reported that they completed short writing assignments of one to three pages for which they received a grade <b>at least monthly</b> .*						75%
143. CT students reported that they discussed or debated topics with other students about what they have read <b>at least once a semester</b> .*						75%

Source: Benchmark Section of *HSTW* Assessment Report

<b>Indicators — Teacher Collaboration</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
144. Teachers reported meeting as a member of a team of teachers to plan joint instructional activities and to take collective responsibility for student learning <b>at least monthly</b> .						65%
145. Teachers reported meeting with a group of teachers to examine students' work to determine if it meets national industry and academic standards in their content area <b>at least once a year</b> .						65%
146. Teachers reported meeting with other teachers in their department or center to align assignments and agree upon what student work looks like below, at or above a college- and career-ready-level <b>at least once a year</b> .						90%

Source: *TCTW* Teacher Survey Report

### Emphasis on Transitions

- **Middle Grades and High School to Technology Center** — Build a strong bridge from the middle grades and high school to the technology center to raise student achievement and learning.
- **Technology Center to Postsecondary Studies and Careers** — Prepare students for postsecondary studies and careers.

<b>Indicators — Middle Grades and High School to Technology Center</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
147. Students reported that when they entered high school, they were <b>very well prepared</b> with the necessary knowledge and skills in reading to succeed in college-preparatory courses.						85%

<b>Indicators — Middle Grades and High School to Technology Center</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
148. Students reported that when they entered high school, they were <b>very well prepared</b> with the necessary knowledge and skills in writing to succeed in college-preparatory courses.						85%
149. Students reported that when they entered high school, they were <b>very well prepared</b> with the necessary knowledge and skills in mathematics to succeed in college-preparatory courses.						85%
150. Students reported that when they entered high school, they were <b>very well prepared</b> with the necessary knowledge and skills in science to succeed in college-preparatory courses.						85%
151. Teachers reported being <b>very familiar</b> with the content and specific goals of the courses taught in the middle grades and high schools that send students to their center.						75%
152. Teachers reported meeting with teachers from feeder middle grades or high schools to discuss expectations, content knowledge and performance standards for students entering their center <b>at least annually</b> .						75%
153. The center holds an orientation session for middle grades and/or high school students.						Yes
154. The center has a career exploratory course for middle grades and/or high school students that exposes them to the center's offerings.						Yes

Source: Benchmark Section of *HSTW* Assessment Report, *TCTW* Teacher Survey Report, Center-Based Data

<b>Indicators — Technology Center to Postsecondary Studies and Careers</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
155. Students reported that they and their parents (step-parents or guardians) attended a meeting at school to talk about plans for after high school. ‡						95%
156. Students <b>strongly agreed</b> that the courses they took in high school successfully prepared them for a career or further education.						95%
157. Students reported that they earned or attempted to earn college credit in high school by taking classes at a community, technical or four-year college or by taking a dual-enrollment, joint-enrollment or concurrent-enrollment course at their high school. ‡						80%
158. Teachers reported meeting with employers and postsecondary faculty to discuss expectations, content knowledge and performance standards for students graduating from their center <b>at least annually</b> .						75%
159. The center has a working relationship with postsecondary partners (local community colleges and other receiving institutions).						Yes
160. The center has a working relationship with local and regional businesses and industries.						Yes
161. The center offers catch-up courses and other opportunities to get students ready for postsecondary study or careers during the senior year.						Yes

Source: Benchmark Section of *HSTW* Assessment Report, *TCTW* Teacher Survey Report, Center-Based Data

‡ Due to changes in the survey, this item is not comparable to previous years. 2010 should be used as the baseline.

### Setting a Clear Mission and Vision for Success

- Send a consistent message to students, families and the community about what is expected of students, teachers and administrators.

Indicators — Setting a Clear Mission and Vision for Success	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
162. Teachers reported that preparing almost all students with the academic and technical knowledge and skills needed to enter college and be successful without needing remedial courses is a <b>very important</b> goal.						85%
163. Teachers reported that helping all students master the academic content and skills needed to enter and advance in their chosen career field is a <b>very important</b> goal.						85%
164. Teachers reported that helping students acquire the technical knowledge and skills needed to get a good job is a <b>very important</b> goal.						85%
165. Teachers reported that preparing all students for the dual objective of employment and further study a <b>very important</b> goal.						85%
166. Teachers <b>strongly agreed</b> that the surrounding community actively supports their center’s instructional goals.						60%
167. Teachers <b>strongly agreed</b> that local and regional businesses and industries support improving the quality of their programs.						60%

Source: TCTW Teacher Survey Report

## Focusing on Continuous Improvement and Demonstrating Strong Leadership

- **Continuous School Improvement** — Use student assessment and evaluation data continually to improve school climate, organization, management, curriculum and instruction to advance student learning.
- **Strong Leadership** — Ensure the school principal and a strong, effective leadership team support, encourage and actively involve faculty in implementing the Key Practices.

Indicators — Continuous School Improvement	Baseline	+2 Years	+4 Years	+6 Years	+8 Years	10-Year Goal
168. The percentage of teacher responses on six indicators that suggest the center has an <b>intensive</b> emphasis on continuous school improvement (four to six indicators)						60%
169. Teachers <b>strongly agreed</b> that the goals and priorities for their center are clear.						60%
170. Teachers <b>strongly agreed</b> that teachers in their center maintain a demanding yet supportive environment that pushes students to do their best.						60%
171. Teachers reported that the director stressed <b>monthly</b> that they should teach all students to the same high standards.						60%
172. Teachers <b>strongly agreed</b> that teachers in their center are continually learning and seeking new ideas on how to improve student achievement.						60%
173. Teachers <b>strongly agreed</b> that teachers and the center director worked as a team to improve student achievement in their center.						60%
174. Teachers <b>strongly agreed</b> that teachers in their school used data continuously to evaluate the center's curriculum, instruction and student success.						60%
175. Teachers reported believing a <b>great deal</b> that staff development experiences have resulted in holding their students to the current national academic and industry standards developed for their field.*						60%
176. Teachers reported believing a <b>great deal</b> that staff development programs were sustained over time, with ample follow-up activities.*						60%

<b>Indicators — Continuous School Improvement</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
177. Teachers reported believing a <b>great deal</b> that they were expected to reflect on what they learned in staff development programs, apply it in the classroom and share it with their colleagues.*						60%

Source: TCTW Teacher Survey Report

<b>Indicators — Strong Leadership</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
178. Teachers reported that the director used data continuously to evaluate the center's effectiveness in preparing students for further study and careers <b>at least annually</b> .						85%
179. Teachers reported that the director consulted with staff members before making decisions that affected them <b>at least annually</b> .						85%
180. Teachers reported that the director encouraged them to experiment with instructional strategies <b>at least every semester</b> .						85%
181. Teachers reported that the director organized study team meetings to address how to implement the individual components of the center's improvement plan <b>at least annually</b> .						85%
182. Teachers reported that the director involved staff in school improvement decisions and activities <b>at least annually</b> .						85%
183. The center's improvement plan is reviewed and revised <b>at least once a year</b> to reflect changing priorities.						Yes

Source: TCTW Teacher Survey Report, Center-Based Data

## Supporting the Staff with Professional Development

- Ensure the superintendent and school board support school administrators and teachers in carrying out the Key Practices. This commitment includes financial support for instructional materials, time for teachers to meet and plan together and six to eight days per year of staff development on using the Key Practices to improve student learning.

<b>Indicators — Professional Development</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
184. Teachers and administrators report participating in the <i>HSTW</i> Summer Staff Development Conference.						Yes
185. Teachers and administrators report participating in <i>TCTW</i> national workshop.						Yes
186. Teachers and administrators report participating in <i>TCTW</i> local/site-specific staff development.						Yes
187. Members of the leadership team report participating in SREB Leadership Module Training.						Yes
<b>Teachers reported receiving more than 40 hours of staff development during the past three years on:</b>						
188. Raising expectations for student achievement						75%
189. Aligning assignments to college- and career-ready standards <sup>†</sup>						75%
190. Using reading and writing for learning strategies across the curriculum						75%
191. Using real-world problems in instruction and assignments						75%
192. Using data to improve instruction and learning <sup>†</sup>						75%
193. Using project-based learning in instruction and assignments						75%
194. Using performance assessment (e.g., presentations, writing, projects, portfolios)						75%
195. Having students design and conduct research investigations						75%
196. Using applied learning strategies to teach higher-level academic content						75%
197. Embedding mathematics in career/technical instruction						75%

<b>Indicators — Professional Development</b>	<b>Baseline</b>	<b>+2 Years</b>	<b>+4 Years</b>	<b>+6 Years</b>	<b>+8 Years</b>	<b>10-Year Goal</b>
198. Applying scientific methods of inquiry in career/technical instruction						75%
199. Embedding literacy (reading, writing, communication) in career/technical instruction						75%
200. Using authentic problems and projects in career/technical instruction <sup>†</sup>						75%

Source: *TCTW* Teacher Survey Report, Center-Based Data

<sup>†</sup>This item was new in 2010.

### Setting Additional Benchmarks

In addition to the *Technology Centers That Work* Benchmarks, centers will want to collect, analyze and develop goals and establish benchmarks for center- and state-specific data. Centers can create their own charts to monitor progress. Centers should monitor:

- State assessment scores
- Graduation/dropout rates
- Course failure rates
- Attendance rates
- Disciplinary actions
- Career/technical offerings and participation
- Course and extracurricular offerings
- Dual/joint enrollment opportunities and participation
- Post-secondary attendance and job placement rates