



# **Technical Assistance: A Guide for Local Sites**

## *Technology Centers That Work*

Southern  
Regional  
Education  
Board

592 Tenth Street N.W.  
Atlanta, GA 30318  
Phone: (404) 875-9211  
Fax: (404) 872-1477  
<http://www.sreb.org>

# Table of Contents

<b>Purpose of a Technical Assistance Visit</b> . . . . .	3
Who Does What? . . . . .	4
Pre-Technical Assistance Visit Timeline and Checklist . . . . .	5
Suggested Schedule/Agenda for the Visiting Team . . . . .	10
Preparing Administrators, Teachers and Counselors for the TA Visit . . . . .	11
During the Visit . . . . .	12
After the Visit . . . . .	13
<b>Using the Technical Assistance Report</b> . . . . .	14
Chart 1:    Prioritizing TAV Report Action Steps. . . . .	16
Chart 2:    Implementing Action Steps . . . . .	17
<b>Appendices</b>	
<i>Appendix I:</i> Technical Assistance Visit Team Members List . . . . .	19
<i>Appendix II:</i> Interview Schedule. . . . .	20
<i>Appendix III:</i> Personal Interview and Observation Form. . . . .	21
<i>Appendix IV:</i> Introduction to TA Visit Classroom Notes Forms . . . . .	22
<i>Appendix V:</i> Technical Assistance Observation Summary Form . . . . .	23
<i>Appendix VI:</i> Conducting Interviews . . . . .	25
<i>Appendix VII:</i> Interview Forms . . . . .	26
High School Student Interview Form. . . . .	26
Adult Student Interview Form . . . . .	27
Academic Teacher Interview Form . . . . .	28
Career/Technical Teacher Interview Form. . . . .	29
Counselor/Advisement Personnel Interview Form. . . . .	30
Administrator Interview Form. . . . .	31
Technology Center Leadership Form . . . . .	32
Business/Industry Representatives Interview Form. . . . .	33
Parent Interview Form. . . . .	34
Postsecondary Representative Interview Form . . . . .	35
<i>Appendix VIII:</i> Self-study Rating Guide – Indicators and Practices . . . . .	36
Primary <i>TCTW</i> Goals for Continuous Improvement . . . . .	47
<i>TCTW</i> Key Conditions for Accelerating Student Achievement. . . . .	48
<i>TCTW</i> Key Practices for Improving Student Achievement . . . . .	49
The <i>TCTW</i> -Recommended Curriculum . . . . .	52
Concepts of Quality Career/Technical Education . . . . .	53
<i>TCTW</i> Terms and Definitions. . . . .	55

## Purpose of Technical Assistance Visits

The purpose of technical assistance (TA) visits is to help tech center leaders and teachers identify changes needed to achieve the *Technology Centers That Work* (TCTW) goal: improved student achievement through blending high-level academic and career/technical studies. TA teams help sites improve the quality of learning for all students by working with teachers, counselors and administrators to:

- \_ raise expectations for student performance;
- \_ revise what students are taught;
- \_ change how students are taught;
- \_ change how the school relates to students;
- \_ change how teachers relate to each other;
- \_ change how the school relates to parents, middle schools, employers and postsecondary schools; and
- \_ collect and use data for continued improvement.

## The History of TCTW

*Technology Centers That Work* is a model to assist shared time technology centers to review actions needed to produce high-demand, high-wage graduates who will be leaders in their selected careers. In order to promote this focus and achieve the previously mentioned TCTW Goals, SREB leaders have made modifications to its original comprehensive school improvement model *High Schools That Work* (HSTW). The TCTW Key Practices reflect the basic indicators found in the HSTW model but have been created to target the specific needs of technology centers and their sending high schools.

While HSTW has primarily been working with comprehensive high schools since its inception in 1987, SREB has also had the fortune of working with technology centers over the past years to collect data and best practices in an effort to define quality career/technical studies. HSTW is a consortium of states working with the Southern Regional Education Board (SREB). Currently the HSTW Network consists of 32 states and almost 1,200 high schools. As HSTW works to assist schools in raising student achievement and completion rates to meet No Child Left Behind measures, TCTW will assist centers in emphasizing quality academic components and industry standards to provide students with a high-quality program of studies to support high-wage, high-demand careers. This focus on high-wage, high-demand careers highlights the shift in career/technical education from old beliefs to new beliefs to support a globally competitive workforce. A comparison of these beliefs and a review of the structure and organization of changes needed for successful implementation of the model are found in the *Technical Assistance Guide for Team Members, Technology Centers That Work*.

## Who Does What?

<b><i>TCTW Staff Before the Visit</i></b>	<b><i>TCTW Site Coordinator Before the Visit</i></b>
<p>1. Contacts site coordinator with information about the approaching schedule of visit and names/contact information of TA team leader and individual school team leaders for the upcoming visit.</p> <p>2. Identifies individual responsibilities for who will lead visit to each school.</p> <p>3. Sends a personal letter to each team member with a copy of <i>Technical Assistance: A Guide for Local Sites</i>.</p> <p>4. Helps sites with self-study and schedule.</p> <p>5. Communicates with individual school team leaders to coordinate travel and provides instructions and copies of school's most recent data and related information.</p> <p>6. Helps site leaders understand that the visit is not an accreditation visit or regulatory visit, but a visit in which the team celebrates the accomplishments and efforts of the sites and shares ideas with the administrators and site leaders on how to address some of the challenges they face in ensuring quality learning for all students.</p>	<p>1. Selects the TAV team members. Sends names, addresses and phone numbers to <i>TCTW</i> staff member who is leading the visit.</p> <p>2. Makes initial contact with team members, provides briefing for them on responsibilities as members of the team and gets their agreement to participate.</p> <p>3. Prepares agenda in cooperation with <i>TCTW</i> team leader.</p> <p>4. Sends every team member appropriate information for their use in preparation for the TA visit.</p> <p>5. Gathers appropriate materials for the team's workrooms as described on page 6. Works with site leaders and teachers to complete the sites' data profile.</p> <p>6. Makes hotel reservations for team members; provides nametags and parking places; plans dinner on first night if there is to be one, arranges for transportation for team members to and from the schools and the hotel.</p> <p>7. Notifies teachers and students that the teams will be there; schedules exit interview.</p>
<p><b><i>During the Visit</i></b></p>	<p><b><i>During the Visit</i></b></p>
<p>7. Spends approximately two hours preparing the teams for the visits, making assignments for program visits and various interviews.</p> <p>8. Visits classes and interviews students, teachers, counselor/advisement personnel, administrators and community representatives.</p> <p>9. Makes the exit report to the team, key administrators of the various institutions, local site coordinators and others at the sites.</p>	<p>8. On the first night, presents to the team members, along with appropriate others representing the sites, information on outstanding practices, next steps planned and major challenges faced within the individual institutions as well as in their working relationship with each other.</p> <p>9. Provides refreshments for the team members.</p>
<p><b><i>After the Visit</i></b></p>	<p><b><i>After the Visit</i></b></p>
<p>10. Writes, edits and corrects all reports made by team leaders.</p> <p>11. Mails official report to the local administrators and local <i>TCTW</i> site coordinator.</p>	<p>10. Provides appropriate workspace, including flipcharts and computer availability for debriefing.</p> <p>11. Reads the first draft report and responds to team leader with comments.</p> <p>12. Uses the report in reviewing, updating and/or finalizing the sites' action plans, providing staff development, making curriculum modifications, developing agreements and other appropriate actions.</p>

## Pre-Technical Assistance Visit Timeline and Checklist

Use the checklist to help you prepare for the technical assistance (TA) visit.

### A. Four weeks in advance of the visit, the *TCTW* site coordinator:

- chooses team members.
- invites team members to serve on the TA team, explaining the details of the visit.
- compiles the following in a notebook or folder and sends to SREB:
  - Team members' addresses, phone numbers, positions (See Appendix I, page 19 for name and address list)
  - Agenda with times and locations for meetings and interviews, name of hotel where team leaders/members are staying along with a map
  - Number of programs, secondary, adult and mixed. If organized into clusters, how many and what are the names of the clusters
  - Maps of campus and/or program locations
  - Number and names of sending schools and number of students from each
  - Master school schedule with teachers' names (by department), classes, room numbers and bell schedule (including any classes away from the main buildings)
  - Enrollment by gender and ethnicity (Program enrollment, when available)
  - Technology center retention and completion rates
  - Number of students enrolled in dual credit courses
  - What programs are aligned to industry standards, how many industry exams were taken by students last year and what was the pass rate
  - Data profile, that includes *HSTW* assessment (if available), state test data, state report card, SAT, ACT and/or Advanced Placement (AP) scores, standardized test scores, failure rates by grade level in core content areas, college going, college remediation and graduation rates and/or any other relevant data
  - Absentee rates, suspension rates and dropout rates
  - Current demographic information including male/female, minority population, socio-economic status of communities served by the schools, etc.
  - Program offerings, program descriptions, programs of study, etc.
  - The *TCTW* site mission statement
  - Completed Self-study Rating Guide (See separate attachment) for sites that have not administered the *HSTW* assessment

### B. Two weeks in advance of the visit, the site coordinator sends copies of the notebook or folder of information listed above to the team leader.

**C. Arrangements to be made by the site coordinator in advance of the visit:**

- Hotel reservations for team leaders/members coming from out of town
- Afternoon snacks for first and second days (optional)
- Coffee, juice, light morning snack for second and third days (optional)
- Information about restaurants for out-of-town team leaders/members
- Lunch for second day, preferably in the school cafeteria
- Parking instructions for team members
- Nametags for team members
- Meeting room reserved for team use
- Agenda for team visit, including interview schedule with meeting times and places (See page 10.)
- List of teachers who are absent on second day of visit

**D. Supplies needed for technical assistance team workrooms:**

- Graduate Follow-up Survey, if available
- A list of state high school graduation requirements and college entrance requirements
- Student handbook
- Copies of course syllabi (one set per team)
- Display copy of the most recent *HSTW* assessment report, if available
- Display copy of academic and career/technical assessment reports
- Copies of programs of academic and career/technical studies given to students and used by counselors/advisors
- Records of joint planning sessions between technology center and high school teachers
- Examples of students' individualized four/six-year education plans
- Literature given by technology center counselors to students in planning the high school program of study
- Samples of quality student work in career/technical classes
- Samples of student assessments
- Copies of Classroom Notes Form (10 copies for each team member — See Appendix III, IV and V, pages 21-23.)
- Copies of teachers' lunch schedules, if not indicated on master schedule
- Easel with chart pad, markers and masking tape
- Large, self-adhesive (Post-it) notes
- Writing tablets, pens, highlighters and pencils
- Stapler and paper clips
- Roster and minutes of advisory committee(s)
- Documents that show alignment to state academic and industry standards
- Copies of training agreements with employers
- Copies of articulation agreements

**E. Faculty oral presentation for the technical assistance team members conducted by administrators, *TCTW* site coordinator and key teachers that**

**includes the following:** (*Important information from the presentation should be written and copied for each team member for easy reference during the visit.*)

- ❑ Description of outstanding practices
- ❑ Specific next steps the schools will take to implement the Key Practices for *Technology Centers That Work*, TCTW conditions and goals
- ❑ Description of challenges faced in the implementation process
- ❑ Any other information that the school personnel think would be helpful to team members

## ***What Happens BEFORE the Visit Takes Place?***

SREB and local TCTW site coordinators have significant responsibilities before the TA visit takes place. One of the most important tasks is selecting and notifying team members.

## ***Who Selects the Team?***

The local TCTW site coordinator/administrators identify and contact representatives from the participating high schools, business and industry, community, local board of education or parents. The State TCTW Coordinator will select the team leader and representatives from other career and technology centers to serve on the team.

(When SREB staff members lead the visit the state TCTW coordinator may elect to assume these responsibilities and participate as a team member.) The TCTW site coordinator may want to work with other TCTW site coordinators to choose representatives from other TCTW sites who have depth of knowledge in core academic and career/technical fields, and who know and can recognize quality teaching and learning. The site coordinator may want to invite individuals from TCTW sites that will be undergoing a visit in the near future or are new to the effort and wish to implement the design.

**When selecting team members, be sure they understand and agree to the time commitment. While team members should be present for the entire visit, each team member *must be on time for the beginning meeting and remain at least through the evening of the second day.***

## ***How Many Team Members Are Needed?***

The number of members on a TA team depends on the size of the technology center to be visited. Six to eight team members are usually adequate for each team, unless the center is very large.

## ***Who Serves on the Technical Assistance (TA) Team?***

Membership of TA teams for the technology center should consist of individuals from other centers and the community to include:

- A technology center administrator;
- A CTE teacher;
- A counselor or student adviser;
- A representative from the private sector (business/industry/community) who understands the modern workplace requirements and the importance of making improvements in both career and academic courses; and
- At least one representative from one of the sending high schools that provides many of the school's students.

Other individuals who could be considered as possible team members for the Technical Assistance Visit include:

- Members of the state or local board of education;
- State agency staff members in a position to recommend school improvements;
- A representative from a postsecondary partner institution;
- An academic teacher;
- A parent; and/or
- Additional team members including two to three individuals who can look objectively at the career/technical programs and serve as “critical friends” and who have a deep knowledge of what constitutes quality career and technical programs instruction. Examples include a teacher educator, career/technical director from another school, and/or career/technical teachers who have received national board certification representing exemplary programs.

## ***Who Sends the List of Team Members to the State Coordinator?***

The TCTW site coordinator sends the *Technology Centers That Work* State Coordinator the names and addresses of all team members 20-30 days before the visit so SREB can distribute the necessary materials. (See Appendix I, page 19.)

## ***Who Pays the Expenses of Team Members?***

SREB pays the expenses of its representatives. The TCTW project site covers expenses of team members.

## ***How Long Does a Visit Last?***

The visits begin at approximately 3 p.m., and end before noon on the third day. A detailed sample agenda is provided on page 10. The local site should plan the ending time on the third day, with special attention to the administrators and team leaders' schedules. One to two hours needs to be allowed for the team members to consolidate their reports at the beginning of the third day, prior to the exit report with the administrators and site director.

### ***Who Determines the Agenda?***

It is the role of the *TCTW* site coordinator to develop the agenda in cooperation with the team leader. The agenda should resemble the one on page 10. However, changes may be needed to accommodate local site schedules (e.g., the beginning and ending of the school day).

The *TCTW* site coordinator selects the individuals to be interviewed. A center may choose to randomly select a group of students, (both high school and adult, as appropriate), academic (if located on technology center campus) and career/technical teachers, guidance personnel, administrators, community partners including business/industry partners, parents and/or postsecondary partners. Except for the interview with administrator(s), all of the interviews should be conducted in a group setting. Interview times may need to be changed, depending on the needs of the site. The purpose of these interviews is to determine accomplishments the school has made in implementing the Key Practices for *Technology Centers That Work*, identify next steps the schools plan to take, and get input regarding challenges the schools still faces to advance technology center goals. Interviews, if possible, should take place between 1 p.m. and 3 p.m. Be sure to list locations of interviews and other meetings on the agenda. ***The team leader will always interview the administrators and the students. This agenda needs to be shared with the staff in advance of the visit.***

**Note:** The administrator's interview and students' interviews should be scheduled at different times.

## Suggested Schedule/Agenda for the Visiting Team

### *Sample Agenda*

<u>TCTW Site</u>	<u>Date</u>
<b>FIRST DAY</b>	<u>Day of Week and Date</u>
3:00 p.m.	Technical assistance visit team's orientation with team leader- <u>Location</u>
4:30 p.m.	Center representatives present the technical assistance team with information about the center's accomplishments, proposed next steps and major challenges- <u>Location</u>
6:00 p.m.	Technical assistance visit team meet with team leader to receive assignments and get answers to questions about the upcoming visit- <u>Location</u> (Optional Dinner)
<b>SECOND DAY</b>	<u>Day of Week and Date</u>
7:30 a.m.	Team organizational meeting at center- <u>Location</u>
8:00 a.m.	Classroom observations start at the beginning of first period and end at noon
Noon	Lunch- <u>Location</u>
1:00-3:00 p.m.	Other classroom visits as necessary
1:00 p.m.	Interviews by selected members of the technical assistance team of the following: <ul style="list-style-type: none"> <li>▪ 10 to 12 career/technical completers, chosen at random -<u>Location</u></li> <li>▪ 10 to 12 first-year students, chosen at random)-<u>Location</u></li> <li>▪ Technology Center Program Director-<u>Location</u></li> <li>▪ School counselors/advisement personnel-<u>Location</u></li> <li>▪ 10-12 adult students, chosen at random, if appropriate- <u>Location</u></li> </ul>
2:00 p.m.	Interviews by selected members of the technical assistance team of the following: <ul style="list-style-type: none"> <li>▪ A group of five to six career/technical teachers-<u>Location</u></li> <li>▪ The superintendent or assistance superintendent for instruction-<u>Location</u></li> <li>▪ One or more school board members, if possible-<u>Location</u></li> <li>▪ Representatives of the business community-<u>Location</u></li> <li>▪ Parents, if possible-<u>Location</u></li> </ul>
3:00-8:00 p.m.	Team meets at the center to discuss findings and prepare a draft report. (May work later, if necessary- <u>Location</u>
<b>THIRD DAY</b>	<u>Day of Week and Date</u>
8:00-9:00 a.m.	Team members meet to review report- <u>Location</u>
9:00 a.m.	Exit conference with school administrators (Allow approximately one hour.)

## Preparing Administrators, Teachers and Counselors for TA

### Preparation

In preparing for the technical assistance visit, everyone should know that a TAV team will be visiting the tech center and that this visit is not evaluative in nature. Administrators, teachers, counselors, parents and students should be aware that the team will be in the school and may visit any or all classrooms/programs.

### Observation

Classroom observations should take place during the morning of the second day. Each observation will last 10 to 15 minutes. Observations will focus on teacher preparation, level of student engagement, challenging assignments given to students, and giving significance to what students see they are expected to learn. **Teachers should avoid giving tests on the days of the visit to support the team's observations.**

### Interviews

Interviews will take place in the afternoon and generally last 45 minutes to an hour. The team will interview **groups** of academic (if located at the technology center) and career/technical teachers, a sample of senior career/technical completers, first-year students, adult students (if appropriate), counselors and advisement personnel, district leaders and appropriate administrators.

The purpose of these interviews is to determine the progress the center has made in putting the Key Practices into place in order to ensure success for school students pursuing further study and careers, identifying next steps the center plans to take, and get input regarding challenges the center must face to advance student achievement and help students make successful transitions. Appendix VII on pages 26-35 contains interview questions for the various groups.

### Self-study

SREB recommends that the local site staff members including administrators, teachers, and counselors complete the Self-study Rating Guide. (See Separate Attachment, Self-study Rating Guide, *Technology Centers That Work*, if the site has not given the *HSTW* assessment.)

The self-study contains the 10 Key Practices for Improving Student Achievement and indicators that address their implementation. Place a check mark in the numbered column that best describes the degree to which that key practice is in place. The site team should determine the rating together and come to a consensus about where the site is in implementing the *TCTW* design. This should allow the site to find out its most outstanding practices, next steps and major challenges.

## During the Visit

### ***Day One — Team/Site Orientation***

The TA team orientation begins promptly at 3 p.m. (or at an alternate time set by the site or team leader). This meeting is led by the TAV team leader, and attended by team members. *TCTW* site representatives do not attend, although the local site coordinator should be available at the end of this meeting (as requested by the team leader) to answer any questions.

At 4:30 p.m., the team meets for approximately 60 minutes with *TCTW* site leader, including the administrators, program director, key teacher leaders and others invited by the site. A presentation is made by the site representatives, and they should answer these questions in their presentation to the team:

- What are your outstanding practices? For example, what have you done to enhance relationships between the sending high schools and technology center, improve student learning, increase the number of students going on to postsecondary education, improve attendance, retention and completion, improve the quality of instruction, etc.?
- How did you do it and what are the results, especially in terms of improved student learning, attendance, postsecondary attendance, school completion rates, etc.?
- What do you intend to do next, i.e., what are your next steps?
- What are the major challenges faced in improving the quality of student learning?

Team members will then review materials individually, meet with their team leader, plan their observations and interview schedules for the next day, and get final directions/answers from their team leader. Sites that want to host a dinner for the team (a dinner is not required) should do so during this evening. A dinner should not be planned for the second night, unless the team leader asks for sandwiches/refreshments to be served because the teams will need to work late in preparing the draft report.

### ***Day Two — Observations, Interviews and Team Debriefing***

Classroom observations take place during the morning of the second day and last for 10 to 15 minutes each. (See Appendix III IV and V, pages 21-23.) Interviews are in the afternoon and last from 45 minutes to an hour. The team will interview groups as listed in the Suggested Schedule/Agenda. Individual teachers may also be interviewed during their planning period. (See Appendix II for Interview Schedule, page 20.)

At 3 p.m., TA team members will meet at an identified location to discuss information they have collected and observed. The team will then prepare a draft outline of the report that evening, which may last until 8 p.m. or later. The team may need access to a computer lab in order to draft and key in the report.

### ***Day Three — Exit***

The TA team will meet at 8:00 a.m. to review the individual reports and consolidate into an overall exit report. At 9 a.m., the team will meet with the site leaders to discuss the report. At that time, the team leader will present an oral report that will include the team's findings,

challenges and suggested actions for the school. Schools may want to videotape the oral report so it can be viewed later and discussed by teams of teachers. A copy of the draft report will not be left with the school.

## After the Visit

Technical Assistance Visits and reports are critical components of the services provided to *TCTW* sites. The reports guide school improvement by helping the school leaders change how they lead and develop/improve relationships between the center and the sending high schools and by helping teachers change what and how they teach. They describe outstanding practices at the center, identify the center's major challenges, and recommend actions that administrators, teachers and other faculty can take to raise student achievement and enhance relationships.

The most important aspect of a technical assistance report is what the centers do with it. Successful centers use their report as a vital resource document in writing, implementing, evaluating and revising their three-year school improvement plans. The following steps can assist centers in getting the most from a technical assistance report:

- **Make the report available to the entire faculty.** Each teacher should know what the technical assistance team urged the center to do.
- **Discuss the report.** Ask small groups of five or six teachers per group to meet with a facilitator and a representative of the school leadership team. At monthly faculty meetings or at a faculty retreat address challenges outlined in the technical assistance report. Encourage the groups to use center/student data in their discussions.
- **Reach consensus.** Ask each small group to decide on actions that can be taken each year for the next three years. Groups addressing the same challenge should meet together to reach consensus and determine specific actions.
- **Develop a plan.** A few key members of each group will work with the center's focus teams (curriculum, staff development, guidance/public information and evaluation) to develop an improvement plan. The plan will include objectives, strategies, activities, an organizational structure, a time line, professional development and projected costs.
- **Present the plan to the faculty, the superintendent and school board.** With their approval, school leaders and teachers can begin to implement the plan.
- **Implement the plan.** The small group, led by the site coordinator, will see that the plan is carried out and will report progress at faculty meetings.
- **Evaluate and revise the plan.** Use data to determine what is working and what is not working. Ask a small group of key members to suggest ways to revise the plan for the coming year.

# **Using the Technical Assistance Report**

## Process for Using the Technical Assistance Report

### Ground Rules

Ground rules — everyone participates; cell phones are turned off; newspapers are read before and after school; papers are graded after the workshop adjourns; start and end on time. A school administrator should lead this process.

### Objective

Use the TAV Report to help school leaders and teachers identify changes needed to achieve the *TCTW* outcomes and Key Practices.

**Step 1:** Provide a copy of the TA report to each faculty member.

**Step 2:** Organize faculty into focus teams — Each team will have an effective **team leader**, a **facilitator**, and a **recorder**. The **team leader** is the “keeper of the vision” who plans, informs, directs, supports and evaluates the progress of the team’s assignment and serves as a reporter during the whole group sharing time. The **facilitator** keeps the discussion focused and moving along, intervenes if a discussion fragments, prevents anyone from being dominant or passive, and brings discussions to a close at the end of the allotted time. The **recorder** takes notes during discussions, records agreements and actions.

**Step 3:** Divide the challenges among the teams by matching the challenge to the charge of a particular team/committee. For example, if there is a challenge on aligning curriculum to standards, give it to the curriculum team.

**Step 4:** Have each team look at the recommended action steps and identify two (Chart 1) that could be accomplished in years one; two and three.

**Step 5:** Teams work through the process of developing implementation strategies (Chart 2).

**Step 6:** Break Through Strategy — In the upper right corner of a piece of chart paper, have each team write the names of their members. On that chart paper, the recorder will create three columns on the chart paper. Label Column 1: Me; Column 2: School Leadership Team; Column 3: Total Faculty.

Me	School Leadership Team	Total Faculty
----	------------------------	---------------

**Step 7:** What does all this mean? (Each person responds to each question individually.)

- What can I personally do to implement the strategies? (Write on two Post-it notes and put one in lesson plan as a daily reminder and the other on chart.)
- What can school leadership team do to implement the strategies? (Write on a Post-it and put on chart.)
- What can total faculty do to implement the strategies? (Write on a Post-it and put on chart.)

Hang the chart on the wall after group has finished. The leadership team will synthesize the big ideas and share with the total faculty. The strategies should become a part of the school improvement plan.



## Chart 2 Implementing Action Steps

School: _____
Committee: _____
Chair: _____
Challenge:
School Improvement Goal:
Action Step:
Measurable Objective:
Data Supporting Need:

Select the two highest priority actions steps for Year One. Place each action step on a separate chart. As a group determine the implementation steps to achieve the action step this year.

Implementation Steps	Persons Involved	Deadlines	Resources Needed to Complete Tasks	Monitoring Process (Accountability)	Staff Development

# **APPENDICES**

**Appendix 1**

**TCTW Technical Assistance Visit Team Members List**

The TCTW site coordinator will complete this form for each school's team and return it to Donneia Anderson ([donnea.anderson](mailto:donnea.anderson) or fax 404-872-1477) or Ann Benson ([gben@brightok.net](mailto:gben@brightok.net) or fax 405-533-3721) before the visit takes place and again, a final corrected (if necessary) copy with the written report. This is to ensure correct information about the visit.

**PLEASE PRINT**

**TCTW Technical Assistance Team Member List**

Tech center \_\_\_\_\_ Director \_\_\_\_\_ E-mail \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_  
 Address \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Site Coordinator \_\_\_\_\_ E-mail \_\_\_\_\_  
 Site Coordinator's Phone \_\_\_\_\_

<b>Category</b>	<b>Name</b>	<b>Address (City, State, Zip)</b>	<b>E-mail</b>	<b>Phone</b>	<b>Fax</b>
<b>Director/ Administrator</b>					
<b>Teacher</b>					
<b>Teacher</b>					
<b>Teacher</b>					
<b>Counselor</b>					
<b>Director</b>					
<b>Employer</b>					
<b>Parent</b>					
<b>Board Member</b>					
<b>Others</b>					

**Appendix II**  
**TCTW Interview Schedule**

The site coordinator will complete columns 2 and 3. The team leader will complete column 4. A copy of this form will be provided to team members during the first evening orientation.

(1) GROUP	(2) LOCATION	(3) TIME	(4) TA TEAM MEMBERS
Adult Students or Academic Teachers (if appropriate)			<hr/> <hr/> <hr/>
Career/Technical Teachers			<hr/> <hr/> <hr/>
First-Year Students			<hr/> <hr/> <hr/> <hr/>
Career-Tech Completers			<hr/> <hr/> <hr/>
Guidance/ Advisement Staff			<hr/> <hr/> <hr/>
School-level Administrators			<hr/> <hr/> <hr/>
Parents/Community Representatives			<hr/> <hr/> <hr/>

**Appendix III**  
**Personal Interview and Observation Form**

**Team Member:** \_\_\_\_\_

TIME	ACTIVITY—Interview or Observation	Location	Alternative Observations	Location
7:00-8:00	Morning Team Meeting			
8:00-9:00				
9:00-10:00				
10:00-11:00				
11:00-12:00				
12:00-1:00				
1:00-2:00				
2:00-3:00				
3:00-8:00	Team Debriefing			

Notes:

## Appendix IV

### Introduction to the *TCTW* Classroom Notes Form

The purpose of the classroom visit is to determine, within a 10- to 15-minute snapshot in a classroom or laboratory, the degree to which students are actively engaged in learning challenging content. Given the short window of the visit, this form must be brief, while encouraging the observer to note key characteristics of the instruction that support student achievement. Space is provided for running notes and for reflection on the quality of the learning environment following the classroom visit.

There are many factors that contribute to a well-managed and well-planned lesson. To address them all would result in a form of many pages and a classroom visit that lacks focus. This form encourages the observer to look specifically at the quality of work through items that support student achievement. In addition, the observer is asked to describe several aspects of the classroom environment.

There are several things this form emphasizes:

- **A focus on the students' experiences in the classroom.** It is a “moment-in-time” assessment of what is actually happening. This is not an evaluation of individual teachers. For example, there are no items related to teacher planning. Though it is important for teachers to plan lessons in advance, planning alone does not guarantee student learning. The teacher's ability to engage the students in learning is a more significant factor and actually can be observed in the classroom.
- **A description of the quality of the learning experience rather than the specific method used.** This is not an assessment of particular teaching methods, although some methods such as cooperative learning or project-based learning may indeed lead to improved student learning. For example, the form asks if students are engaged in substantive interaction about the content of the lesson. Students could be interacting in groups or in a well-designed discussion involving the whole class.
- **A view of the physical environment and the resources available in the classroom only as they impact student learning.** Technological tools may be readily available in the classroom, but the important information is how they are being used to enhance student learning.
- **A description of the quality of work in which students are engaged.** It is more than an assessment of whether students are “on task.” Observers should be concerned with the nature of the task and whether or not students are encouraged to think deeply about the content of the lesson. For instance, student reading should include evidence that the student understands what he/she is reading.

**This form does not address all relevant data from the classroom.** Some data may be difficult to obtain during a classroom visit; some issues may be better explored through questions during student or teacher interviews. For example, students should be asked whether or not they are aware of the standards for quality work and opportunities for extra help. Teachers should be asked about professional development opportunities and ways these opportunities have supported fundamental changes in classroom practice.

**Further evidence of student experiences can be collected if it does not interfere with teaching and learning.** Beyond the actual visit of classroom events, the observer can ask the teacher, if the opportunity arises, for samples of student work, a copy of the course syllabus, copies of recent assessments or copies of end-of-course exams. These offer further evidence as to how the teacher engages students in learning.

<b>Classroom Observation Form</b>		<b>Time of Observation:</b> Opening ___ Middle ___ Closing ___	
<b>Course/Level:</b> _____		<b>Class Size</b> ___ <b>Male</b> ___ <b>Female</b> ___	
<b>Ethnicity:</b> White ___ African American ___ Hispanic/Latino ___ Asian American ___ Native American ___ Other ___			
<b>CLASSROOM OBSERVATION</b>	<b>DESCRIPTION/COMMENTS</b>		
<b>Evidence of emphasis on literacy</b> ___ Use reading to learn strategies ___ Use writing to learn strategies ___ Student presentations using set criteria ___ Evidence required of reading both in and out of school	<b>Describe the classroom activities or assignments requiring students to read, write and/or present</b>		
<b>Evidence of emphasis on numeracy</b> ___ Use real-world problems ___ Use problems with many possible answers ___ Use graphs, charts and tables	<b>Describe classroom activities or assignments that highlight the mathematical skills that are associated with the lesson.</b>		
<b>Evidence of emphasis on integration</b> ___ Cross-curricular connections ___ Interdisciplinary unit ___ Application of skills and/or content learned in other classes	<b>Describe any other integrated content observed in the lesson, including integration of content from elective courses.</b>		
<b>Evidence of emphasis on state or national content standards</b> ___ State Standard or Essential Questions Posted ___ Learning Objective Posted ___ Learning Outcomes Described by Teacher	<b>What content standard or objective was addressed with this lesson? In your professional opinion, was the content at or above grade level?</b>		
<b>Classroom Environment</b> ___ Student Work Displayed ___ Evidence of Rubrics ___ Print-rich Environment ___ Availability of Technology	<b>Briefly describe the classroom environment. Describe the classroom set-up (rows of desks, clusters or tables).</b>		
<b>Teacher Actions</b> ___ Lecture ___ Teacher-led Instruction/Discussion ___ Teacher Modeling with Student Practice ___ Teacher Works with Individual Students ___ High-level Questioning	<b>Briefly describe what the teacher was doing during your time in the classroom and the teacher's location.</b>		
<b>Student Actions/Activities</b> ___ Bell Ringer/Warm-Up Activity ___ Project/Problem-based Learning ___ Lab/Hands-on Student Work ___ Using Technology ___ Cooperative Group Work ___ Students Working With Partners ___ Students Making Presentations ___ Drill / Worksheet / Text Seat Work	<b>Briefly describe what students were doing during your time in the classroom.</b>		
<b>Summary of Observation:</b> <b>RIGOR/CHALLENGE OF WORK</b> ___ Basic    ___ Proficient    ___ Advanced <b>ENGAGEMENT OF STUDENTS</b> ___ Low (Compliant)    ___ Medium    ___ High			

**Appendix V**

**Technical Assistance Observation Summary Form**

**Directions:** Use your completed individual observation forms to complete the following table. This information provides quantifiable information about the current state of classroom practices and engagement. To save time, complete the sections of this form as you exit each class. You will be asked to provide your specific numbers and examples at the beginning of the debriefing session on Day 2 of the visit. This form will also be collected by your team leader.

<p><b>1. Content:</b> Do classes reflect content that is consistent with state grade-level curricula? According to proficiency descriptors, would you classify the content of the lesson as Basic (B), Proficient (P) or Advanced (A)?</p>				
<p><b>B</b> (approaching grade level)</p>		<p><b>P</b> (grade level)</p>		<p><b>A</b> (above grade level)</p>
<p><b>2. Engagement:</b> Were class activities student-centered? Consider if learning activities require students to make presentations, work in cooperative groups and perform real-world tasks. Is instruction teacher-led, (lecture, questions and answers or textbook-based) or student-centered or directed (interactive, every student is actively involved)?</p>				
<p><b>L</b> (compliant/passive)</p>		<p><b>M</b> (moderately engaged)</p>		<p><b>H</b> (very engaged)</p>
<p><b>3. Classroom Environment:</b> Were students sitting in rows or in groups? Did students have access to technology? Did the classroom have resource materials (books, magazines, maps, globes, artifacts, etc.)? Was student work posted? Did the teacher post a daily objective?</p>				
<b>Seating</b>	<b>Access to Technology</b>	<b>Reading Resources</b>	<b>Student Work Posted</b>	<b>Daily objective posted</b>
Rows				
Groups				
<p><b>Best Lesson:</b> In two or three sentences, please describe the best lesson that you saw at this school.</p>				
<p><b>Concerns:</b> List your key concerns for the school below.</p>				

## Appendix VI

# Conducting Interviews

Each team member will interview at least one group at the site. There are specific questions in the following pages for interviews with students, teachers, guidance counselors, administrators, business/industry partners, postsecondary partners and parents. Be sure to appoint a note taker during the interviews. Your team leader will use these notes to gather supporting quotes for the final TA Report.

### **Tips for Effective Interviews**

1. Introduce yourself and provide a brief statement about the nature of the visit. Be clear about the purpose of the visit—to help the center identify best practices and future actions needed to improve all program areas. The goal is to get views on what the center has done, to define next steps and challenges, and to enable the people from the center to talk to each other.
2. Be prepared. Study the available data and information. Develop an idea of what you want to learn about the center. Take 15 minutes to review the specific interview questions in the Team Member Guide. Decide if there are other questions you should ask that will help fill in any gaps.
3. Have one person ask the questions. Designate someone to take clear and copious notes. Decide who that will be before you begin the interview. This can be determined during the team orientation the first afternoon. The team leader should always interview the students, the director and district leaders.
4. Avoid the trap of allowing one person to dominate the responses. Ask everyone in the room to respond to each question.
5. Restate the question when answers miss the point. For instance, you may not get an adequate answer to a probing question such as, “Why aren’t your students performing well?” Don’t move on to the next question. Instead, repeat what they have said to you in a different way: “Are you saying that all students’ problems originate in themselves and their experiences outside center?”
6. Generate follow-up questions based on responses. For example, if an interviewee says, “I don’t have time to give students extra help,” you may wish to ask, “How can the center administrators adjust your schedule to help you make time to provide extra help?”
7. Be prepared to confront challenges constructively. You may say to leaders, “As we look at the data, we might conclude that staff development follow-up is a problem. Other sites may have addressed it better. What can we do to help address the problem?”
8. Summarize the main ideas interviewees have shared with you and ask if there is anything that was omitted or that needs clarification.
9. Thank interviewees for their time and their commitment to raising student achievement.
10. Remember the contextual differences in interviews with students, teachers and site leaders. Relate this to the purpose of the interview and the questions that you ask.

**Appendix VII**  
**High School Student Interview Form**

**Tech Center:** \_\_\_\_\_

**Use this form as a guide to interview students at the *TCTW* site you are visiting.**

1. Describe this technology center to someone who doesn't attend the center.
2. What courses are you enrolled in this year (academic and CTE)?
3. How do your CTE teachers encourage you to take courses at your home high school? Do CTE teachers ever talk to you about the courses you take?
4. Describe a quality project or assignment that you have felt challenged you and helped you learn the most? How often are you given these assignments?
5. How often are you required to read or write in your CTE classes? Describe the last item that you were required to read.
6. How do your CTE teachers help you to understand the math and science concepts that you will encounter in your career field?
7. What steps will you need to take to earn a certification in your career area and continue your training after leaving this campus?
8. Do you have an assigned advisor or mentor to assist you in planning your high school schedule and next steps after graduation? If yes, describe how that advisor or mentor works with you.
9. If you are having problems mastering a concept or procedure, how can you get extra help?
10. What opportunities do you have to visit local businesses or interact with local business leaders?
11. What one thing would you change at this center that would allow students to be more successful?

## Adult Student Interview Form

Tech Center: \_\_\_\_\_

Use this form as a guide to interview adult students at the *TCTW* site you are visiting, if appropriate.

1. Describe this technology center to someone who doesn't attend the center.
2. What, if any, other courses are you enrolled in this year (academic and CTE)?
3. How do your CTE teachers encourage you to take courses at a community or technical college? Do CTE teachers ever talk to you about the courses you take?
4. Describe a quality project or assignment that you have felt challenged you and helped you learn the most? How often are you given these assignments?
5. How often are you required to read or write in your CTE classes? Describe the last item that you were required to read.
6. How do your CTE teachers help you to understand the math and science concepts that you will encounter in your career field?
7. What steps will you need to take to earn a certification in your career area and continue your training after leaving this campus?
8. Do you have an assigned advisor or mentor to assist you in planning after graduation? If yes, describe how that advisor or mentor works with you.
9. If you are having problems mastering a concept or procedure, how can you get extra help?
10. What opportunities do you have to visit local businesses or interact with local business leaders?
11. What one thing would you change at this center that would allow students to be more successful?

## Teacher Interview Form: Academic Teachers

Tech Center: \_\_\_\_\_

Use this form as a guide to interview academic teachers, if appropriate, at the *TCTW* site you are visiting.

1. Describe the improvements you have made to improve the level of teaching and learning in your classroom?
2. What do you know about the proposed outcomes of the *TCTW* initiative and what have you done to reach these outcomes?
3. How has your school gone about the process of getting all faculty members to work toward improved instruction?
4. Describe staff and/or professional development at your school. How has this staff development changed your instruction?
5. How have you been involved in the use of data to make decisions regarding the school's academic and career/technical programs? How are data used to identify gaps in achievement, curriculum and instruction?
6. How are you involved in encouraging students to pursue additional education?
7. Describe how students get extra help if they are not performing satisfactorily?
8. What support do you receive from center administrators to improve the quality of academic instruction?
9. What are your major challenges?
10. What suggestions would you make to improve the quality of this center?

## Teacher Interview Form: Career/Technical Teachers

Tech Center: \_\_\_\_\_

Use this form as a guide to interview teachers at the *TCTW* site you are visiting.

1. How would you convince an outside business leader that your program is a top quality program?
2. What state/industry certifications do you currently hold? How are you working to enhance the certifications that you currently hold? How do you maintain involvement in your related career field in order to highlight industry updates and current trends for your students?
3. Describe the steps that your students will have to take to earn a state/industry certification in your program area.
4. How have you worked to expand your knowledge of teaching strategies and skills that you can use to more effectively engage students in your classroom? What professional development sessions have you attended?
5. Describe a recent activity that you used in your classroom that required students to read and/or write. How often do you give these assignments?
6. How do you assist students in mastering the math skills that they will encounter in your career field?
7. What activities have you participated in to assist in integrating academic content (math, science, etc.) into your classroom activities?
8. Are students required to do projects in your class? If so, please describe a recent assigned project.
9. How are you involved in promoting your program with feeder middle and high schools?
10. Describe the involvement of your local business advisory committee. How do business representatives assist you in evaluating equipment, curriculum and the overall quality of your completers?
11. How do you assist struggling students to master the content and skills of your course?
12. What major challenges does your program face as you work to address the new Perkins requirements?

## Counselor/Advisement Personnel Interview Form

Tech Center: \_\_\_\_\_

**Use this form to interview counselors and other advisement personnel at the technology center you are visiting.**

1. Describe the opportunities used to promote program offerings at feeder middle and high schools. How do you work with feeder schools to recruit and retain students?
2. Describe any career planning or research activities that you do with potential middle and high school students.
3. What additional career planning assistance do you provide to students once they enroll at the center? How do you assist students in gaining placement in their career field?
4. How do you encourage students to take high-level academic courses at their home high schools?
5. How many students take advantage of postsecondary dual/articulated courses? How do you promote these options with students?
6. What resources (career pathway brochures, course catalogues, course sequence outlines, etc.) do you use to communicate expectations for completing a program? How do you work with teachers to push students to earn an industry certification (when available)?
7. How do you involve parents in planning their students program of study? How do you work to communicate with parents?
8. How do you help students see the relationship between the courses that they take and their future plans?
9. What major challenges do you and the center face in attracting and retaining students?

## Administrator Interview Form

Tech Center: \_\_\_\_\_

**Use this form to interview the school director, TCTW site coordinator and/or other administrators.**

1. How do you support improvement efforts at this tech center?
2. What changes have been implemented as a result of participation in the *TCTW* project?
3. How do you use data to evaluate the tech center programs? How are data used by instructors to make instructional decisions?
4. Describe how you are involved in the improvement of teaching and learning.
5. What kind of staff development has been presented to faculty members this year? How has this staff development changed instruction? Describe how you follow up on staff development to see if strategies have been translated into changes in instruction?
6. Do you use faculty-student groups/teams to address individual components of the tech center improvement plan and other issues related to curriculum and instruction? If so, describe the process and outcomes?
7. What strategies are planned or have been initiated to increase retention and completion rates within your tech center, reduce college remediation rates, and improve placement in careers after program completion?
8. What major challenges do you face in fully achieving the *TCTW* goals as well as having the Key Practices for *Technology Centers That Works* in place?
9. Other comments?

## Technology Center Leadership Interview Form

Tech Center: \_\_\_\_\_

**Use this form to interview the superintendent and/or other system leaders including board members of the *TCTW* site.**

1. How is the tech center leadership, including the superintendent and board of education, driving school improvement efforts for this campus? What is the vision and/or mission statement?
2. What steps have you taken within the district to support the improvement of instruction and student achievement? Have efforts been made to align the curricula to standards? If so, what process did you use? How is data used for continuous improvement?
3. What is the tech center's approach to providing professional development? Do you do walk-throughs of programs? How are new teachers and other administrators supported?
4. How are stakeholders, including teachers and school leaders, involved in identifying improvement goals for the district and developing plans to meet the goals?
5. What is the tech center's long-term plan for improving teaching and learning? Is this included in the tech center's strategic plan? Is teacher turnover a problem? How do you retain quality teachers?
6. What are your hopes for this tech center? What major challenges do you and your tech center continue to face in fully achieving the *TCTW* goals and in having the Key Practices for *Technology Centers That Work* in place? How can the staff of SREB/*TCTW* assist you in meeting those goals?
7. Do you have other comments you would like to share with the visiting team?

## **Business/Industry Representatives Interview Form**

**Tech Center:** \_\_\_\_\_

**Use this form to interview business/industry leaders who support your center.**

1. How have you been involved in helping the teachers and administrators of this tech center set higher standards for students?
2. What has your business or company done to demonstrate to students that it values achievement and cares about learning?
3. How can you become more involved in setting standards for school attendance and achievement?
4. Have you been involved in providing work-based learning experiences for students? If so, how has this impacted your company? The students? If you haven't provided these experiences, why?
5. How can business/industry recognize high achievement by students?
6. Does your company request school information such as attendance records, transcripts and student portfolios as criteria for hiring students? If so, explain. How is the importance of this information communicated to students who are prospective employees?
7. How can the tech center better prepare students who are working in your business?
8. Do you provide mentoring and tutoring opportunities? Describe.
9. Have you had any opportunities to: (Provide specific examples.)
  - Provide information and activities to prepare students for challenging careers?
  - Partner with the tech center and teachers to improve students' academic and technical knowledge?
  - Provide educators, students and parents with specific information about the preparation needed to advance in the industry?
  - Provide students with quality workplace learning opportunities?

## Parent Interview Form

Tech Center: \_\_\_\_\_

Use this form to interview parents at the *TCTW* site.

1. Describe the program that your child is enrolled in at the tech center?
2. How did your child learn about the programs offered here?
3. Can your child earn college credit or a certification upon completing the program?  
If so, which certifications/courses are available?
4. How have you helped your child in selecting courses to take during high school?  
What information have you been provided to assist you and your child to plan for next steps after graduation?
5. What opportunities do you have to meet/talk with your child's teachers or come to campus to see what your child is doing?
6. How do teachers and campus leaders communicate with parents? How do you know about school related events and opportunities?
7. Give an example of a high-quality project or assignment that your child was required to complete.
8. How can teachers and center leaders work to improve the relationship and communication with parents?

## Postsecondary Representative Interview Form

Tech Center: \_\_\_\_\_

**Use this form to interview postsecondary representatives, if applicable, who work with the *TCTW* site.**

1. Describe the partnership that your institution has with the technology center.
2. In which programs do students from the technology center enroll? Do students have an opportunity to earn credits (working with your campus) before they graduate from high school? If so, which courses provide these opportunities?
3. Describe the opportunities that are available for your teachers and teachers from the center to work together to review and align curriculums.
4. How many students coming from the center are required to take remedial coursework on your campus? Which remedial courses do these students typically need?
5. Describe any activities or events that expose students to programs that your campus will support after they graduate from high school.
6. How can the technology center work with your campus to expand opportunities for students?
7. What other recommendations do you have for the technical assistance team?

**Appendix VIII**  
**Self-study Rating Guide – Indicators and Practices**  
**High Expectations**

**Key Practice:** Motivate more students to meet high expectations by integrating high expectations into classroom practices and giving students frequent feedback.

<b>Current Status</b>				
<b>Directions: Place a check in the column under the number that best describes the degree to which the following indicators are in place.</b>				
<b>1-Not Addressed    2-Planned    3-Early Stages of Implementation    4-Full Implementation</b>				
<b>Quality CT Education Indicators.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Students are required to complete four or more credits in a CT Sequence.				
Students are required to use mathematics to complete challenging assignments <b>weekly</b> in their CT area.				
Students are required to complete a senior project that includes researching a topic, creating a product or performing a service and presenting it to peers.				
Teachers assign 30 minutes or more of daily homework for CT courses.				
Technology Centers have established prerequisite coursework (both academic and CT) for each program of studies.				
<b>Overall Indicators that Support High Expectations.</b>				
Teachers clearly indicate the amount and quality of work necessary to earn an A or B.				
Teachers assess students by grading both the product and associated academic and technical skills used to complete the project.				
Students are required to do one or more hours of homework across all subjects each night.				
Students are required to revise their essays and other written work several times to improve quality.				
<b>Directions: Check the appropriate column.</b>	<b>YES</b>		<b>NO</b>	
The center has and enforces a homework policy.				
The homework policy is communicated to students and parents.				
The center has and enforces an attendance policy.				
The center has and enforces a tardy policy that expects students to be in class on time.				
Assignments are benchmarked to the proficient or advanced level.				
Performance descriptors are used to evaluate the level of questions.				
Higher-order questions are used during classroom discussions and on all assessments.				
Common course syllabi, rubrics and end-of-course exams have been developed.				
Teachers identify and communicate what students should know and be able to do at the end of a lesson or activity.				
The center has supporting partnerships among secondary schools, postsecondary institutions, local workforce investment boards, business and industry, etc.				

## Program of Study

**Key Practice** – Students complete a plan of study with a true concentration of an approved sequence, including at least four CT courses and an upgraded academic core leading to better preparation for postsecondary studies.

**Directions:** For the next activity, please use site-based data or consider the most recent graduating class to provide an estimated percentage for each of the following:

Focusing on the <i>TCTW</i> -recommended curriculum	Current Status: Percentage	
Percentage of students completing <b>four credits</b> in college-preparatory-level English/language arts courses.		
Percentage of students completing <b>four mathematics credits</b> with at least three credits equal to Algebra I, geometry and Algebra II.		
Percentage of students completing <b>three science credits</b> (four in schools with a block schedule), including two credits equal to chemistry, physics or lab-based college-preparatory biology.		
Percentage of students completing <b>three social studies credits</b> (four in schools with a block schedule)		
Percentage of students completing <b>four credits in a concentration:</b> <ul style="list-style-type: none"> <li>• A planned sequence of CT courses</li> <li>• Academic Concentration</li> </ul>	<b>CT:</b>	
	<b>Academic:</b>	
Percentage of students completing <b>a computer technology course</b> aimed at teaching students database management, PowerPoint, the Internet and e-mail as tools for project-based learning.		
Number or percentage of students receiving the <i>TCTW</i> Award of Educational Achievement.		
Percentage of students gaining employer certification in their program of study.		
Percentage of students earning postsecondary credit(s) in their program of study.		
Percentage of students who are considered college or career ready (as defined by performance on state or national assessments such as Work Keys, Compass, Asset, ACT, SAT, etc.)		
<b>Directions: Check the appropriate column.</b>	<b>YES</b>	<b>NO</b>
All students must complete the recommended academic core.		
All students must complete a career or academic concentration.		
CT Teachers encourage students to take rigorous academic courses.		
The Technology Center offers courses that allow students to earn both CT and academic credit, such as Construction and Architectural Geometry.		
CT students frequently complete projects requiring them to read related technical manuals.		
CT students complete frequent projects that require them to use related mathematics.		
CT students are required to explain how they perform certain tasks to others.		
CT students must write up a work plan before undertaking a major project.		
The Technology Center addresses academic deficiencies that prevent students from achieving CT course goals.		
A guidance and advisement system exists that has every student establishing a program of secondary studies based on career goals (6 year plan).		

## Literacy/Teachers Working Together

<b>Current Status</b>				
<b>Directions: Place a check in the column under the number that best describes the degree to which the following indicators are in place.</b>				
<b>1-Not Addressed</b>	<b>2-Planned</b>	<b>3-Early Stages of Implementation</b>	<b>4-Full Implementation</b>	
<b>Literacy Across the Curriculum – SREB Goals</b>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
Students are required to read 25 or more books (or their equivalent) across the curriculum. Current Number of Books _____ Note: One hundred pages of technical related articles is the equivalent of one book.				
Students are required to write weekly in all classes.				
Students use reading and writing strategies to enhance learning in all classes				
Students write research papers in all classes				
<b>Literacy Across the Curriculum - Strategies</b>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
Students <b>often</b> use word-processing software to complete an assignment or project.				
Students <b>often</b> revised their essays or other written work several times to improve their quality.				
Students <b>at least monthly</b> read and interpret technical books and manuals (either hard copy or via CD Rom) to complete assignments in their CT area				
Students <b>at least monthly</b> complete short writing assignments of one to three pages for which they receive a grade in their CT classes.				
<b>Students are required to:</b>			<b>YES</b>	<b>NO</b>
Read a technical article every week in the CT classroom.				
Demonstrate understanding of the technical materials they read.				
Prepare a “How to” manual on a topic from the career field of study.				
Keep a journal of the major activities they have completed each week and describe new understandings they have gained.				
Keep a journal of mathematical formulas completed and applied in the course.				
Research and compare procedural manuals before starting a major task or project.				
Work in teams to read a common chapter in a book or technical article and work together to prepare a PowerPoint to share main ideas.				
Give oral presentations <b>at least monthly</b> in CT classes.				
Research industry updates using related magazines, journals and websites.				
Take assessments at the end of a project to determine if the student can read and interpret the technical materials involved in completing a project.				
Complete assessments that expect students to read sections of technical materials and answer questions to test reading comprehension.				
Complete assessments that expect students to read different pieces of technical material and determine which one is accurate.				
Complete assessments that test their ability to reference documents.				
Access a variety of reading materials on campus, including classroom libraries.				
<b>Teachers working together:</b>				
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	
Integrated, inter-disciplinary lessons/projects are in place in all CT areas				
Common planning time is provided for teachers to work together and examine students’ work to determine if it meets state or national standards				
<b>Directions: Check the appropriate column.</b>			<b>YES</b>	<b>NO</b>
Teachers strongly agree that they are familiar with the content and specific				

goals of other teachers in the center.		
Teachers strongly agree that they meet monthly or more often as a part of a team of academic and CT teachers to plan joint instructional activities.		
Teachers are provided with professional development on teaching strategies and integrating academic content.		

## Emphasizing Mathematics and Science Concepts to Enhance Instruction

<b>Current Status</b>				
<b>Directions: Place a check in the column under the number that best describes the degree to which the following indicators are in place.</b>				
<b>1-Not Addressed    2-Planned    3-Early Stages of Implementation    4-Full Implementation</b>				
<b>Mathematics Across the Curriculum – Strategies</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
CT teachers assign <b>weekly or bi-weekly</b> a short exam to see if students can solve 8-10 math problems like those covered in the unit.				
CT teachers meet <b>annually</b> with a high school math teacher to develop a final exam that will contain authentic problems similar to those found in the CT field				
CT teachers meet regularly with high school mathematics teachers to align CT projects with mathematical concepts to help students see the math application in the CT field.				
CT students take a mathematics entrance examination designed specifically for each program area to identify and address mathematic deficiencies.				
<b>Directions: Check the appropriate column.</b>	<b>YES</b>		<b>NO</b>	
Students complete a set of math problems <b>weekly</b> that are similar to ones found in the field of study.				
Students are assigned to a math team to solve math problems.				
Students use a related math textbook with sample problems from the CT field.				
CT teachers use VICA/Skills USA math exams as a way to help students understand the level of math required to enter and advance in the workplace.				
Technology Centers bring in guest speakers or examples of how mathematics is used in the field.				
CT teachers have identified and use common mathematics vocabulary and procedures.				
Students can earn mathematics credit in an integrated CT course.				
CT teachers encourage students to take high-level mathematics courses.				
CT teachers possess knowledge and skills in mathematics required to enter postsecondary education in their field and would not have to take remedial courses in mathematics.				
The CT Center provides proper staff development and support for CT teachers to pass exams and acquire the level of mathematics knowledge necessary to assist students in passing graduation exams in math, employment exams, and placement exams for post-secondary programs?				
<b>Science Across the Curriculum - Strategies</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
CT teachers <b>often</b> show how scientific concepts are used to solve problems in work-related situations.				
Students use science equipment to do complete classroom activities.				
Student work with one or more students in their class on a challenging science assignment <b>at least monthly</b> .				
<b>Directions: Check the appropriate column.</b>	<b>YES</b>		<b>NO</b>	

Students complete any three of the following science courses: college-preparatory physical science, college-preparatory biology/biology 2, anatomy, college-predatory chemistry, physics or Advanced Placement science.		
Students can earn science credit in an integrated CT course.		
CT teachers identify science concepts as they apply to their program area.		
CT teachers and high school teachers identify and use common science vocabulary and processes.		
CT students project require students to complete scientific investigations.		

## Career/Technical Studies

**Key Practice** --Provide more students access to intellectually challenging career/technical studies in high-demand fields that emphasize higher-level mathematics, science, literacy and problem-solving skills needed in the workplace and in further education.

<b>Current Status</b>				
<b>Directions: Place a check in the column under the number that best describes the degree to which the following indicators are in place.</b>				
	1-Not Addressed	2-Planned	3-Early Stages of Implementation	4-Full Implementation
<b>Policies and practices related to career/technical expectations for students.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
All CT teachers provide a course syllabi that outlines state and national standards as well as expectations for quality student work.				
All CT teachers provide students with daily objectives that are communicated in the language that reflects state and national standards.				
Students are required to a performance test containing industry standards they had to meet to pass the test.				
All CT teachers create periodic assessments that are similar to assessments that students would have to complete to pass employability exams or gain employer certifications.				
CT courses advance technical literacy and provide students with structured activities that require reading and comprehending of technical manuals and related articles.				
Students read and interpret technical manuals <b>at least weekly</b> to complete CT assignments.				
Students have to complete writing assignments of 1 to 3 pages <b>at least weekly</b> .				
Students are required by teachers to include a list of books/articles, writing samples and (pictures of) products in a portfolio.				
Students prepare a written report or research study at least once each semester.				
CT courses advance technical numeracy by highlighting mathematics concepts and operations as they apply within learning units or modules.				
Students have to use mathematics to complete CT assignments <b>at least weekly</b> .				
CT courses highlight related science concepts as they apply within learning units or modules.				
Students are required to use technology to complete assignments or projects <b>at least weekly</b> .				
Students use a database or spreadsheet to complete an assignment or project at least <b>once a semester</b> .				

All CT teachers require students to complete challenging projects that integrate CT concepts with academic content <b>at least once a semester.</b>				
All CT teachers require students to complete quality homework assignments <b>at least weekly.</b>				

## Work-Based Learning

**Key Practice --** Enable students and their parents to choose from programs that integrate challenging high school CT studies and work-based learning and are planned by educators, employers and students.

<b>Current Status</b>				
<b>Directions: Place a check in the column under the number that best describes the degree to which the following indicators are in place.</b>				
<b>1-Not Addressed</b>	<b>2-Planned</b>	<b>3-Early Stages of Implementation</b>	<b>4-Full Implementation</b>	
<b>Policies and practices related to work-based learning:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Students received on-the-job training and rotated through several jobs or departments.				
Students received on-the-job-training where they observed veteran workers perform certain jobs.				
Students received on-the-job-training where they are taught how to do the work.				
Students work with employers to identify and develop good work habits.				
Students work with employers to develop good customer relation skills.				
<b>Directions: Check the appropriate column.</b>	<b>YES</b>		<b>NO</b>	
Students' work-based learning experiences are connected to career goals.				
Classroom and work-site assignments are correlated to the career field.				
The center has established a set of standards and policies for work-based learning.				
A training agreement for each employer and student is in place.				
Someone at the center conducts regular site visits to monitor students' progress.				
Employers provide updates on student performance at least once a quarter (formal written progress report).				
Each student is required to develop an individual portfolio to showcase skills and experiences.				
Each student is required to keep a journal.				
Each student is assigned a work-site mentor.				

## Guidance and Advisement

**Key Practice** — Involve students and their parents in a guidance and advisement system that develops positive relationships and ensures completion of a career/technical concentration with an approved sequence of at least four courses and an accelerated program of study. Provide each student with the same mentor throughout high school to assist with setting goals, selecting courses, reviewing the student’s progress and suggesting appropriate interventions as necessary.

<b>Current Status</b>				
<b>Directions: Place a check in the column under the number that best describes the degree to which the following indicators are in place.</b>				
1-Not Addressed	2-Planned	3-Early Stages of Implementation	4-Full Implementation	
1	2	3	4	4
<b>Policies and practices related to guidance and advisement:</b>				
CT teachers work with feeder high school counselors to help students see that they can complete both a CT concentration and a rigorous college preparatory program of studies in preparation for further learning.				
Middle school and high school teachers and students tour the Technology Center to better understand CT program opportunities.				
Technology Centers host community showcases to promote available programs of study and display student work for business leaders, community members, parents and students.				
CT teachers attend both high school and eighth grade registration events to promote program offerings with students and parents.				
CT programs have student scholarships sponsored by local employers.				
CT teachers know the graduation requirements for feeder schools and work with feeder schools to make sure students are on track to graduate.				
A teacher advisement system includes an annual meeting with students and parents to establish and review student college and career goals.				
There is an annual meeting with students and parents to discuss the student’s plan of study for courses in both the high school and CT Center that maximize student opportunities for continued learning in college and careers.				
There is a process involving the CT center and feeder high schools to make sure students are enrolled in the proper mathematics and science courses.				
Someone is assigned to work with students to help them find scholarships for continued study and/or internships and work experience opportunities in the private sector that can support their continued learning.				
<b>Directions: Check the appropriate column.</b>	<b>YES</b>		<b>NO</b>	
The CT Center has a brochure and other publications used to communicate CT program opportunities to potential students, parents, and others.				
The CT Center has a website that parents and students can access for information about programs and prerequisites for courses.				
The CT Center has a full-time guidance counselor or student personnel service person who works with feeder high schools and middle schools so that counselors and teachers at those schools know about CT program opportunities and course prerequisites.				
There are regular open houses at the CT Center for parents, students, and others to learn more from CT teachers and students about program opportunities.				



## Focus on CT Assessments

**CT Assessments should focus on four major areas:**

**1. Technical processes and procedures**

- \* can the student perform each major academic and technical competency required to complete the project according to established standards?
- \* does the student's product indicate the ability to apply technical proficiency to accepted standards?

**2. Academic knowledge**

- \* does the student possess critical knowledge about technical and related academic competencies used to complete the project?

**3. Thinking and understanding**

- \* can the student apply information, ideas and concepts with meaning and understanding?
- \* can the student make a written report and explain verbally what he/she has done and why?
- \* can the student analyze a situation and make appropriate decisions about it?
- \* can the student solve problems and give a clear rationale for what was done to solve them?
- \* can the student collect, synthesize and use information to complete the project?

**4. Personal development**

- \* is the student self-motivated and able to manage time?
- \* can the student work with and learn from others?
- \* does the student demonstrate honesty and integrity?

<b>Directions: Check the appropriate column.</b>	<b>YES</b>	<b>NO</b>
Do you disaggregate state assessment results in reading, mathematics and science for CT students?		
Are students required to meet standards on a written exam to pass the CT course?		
• Are one-third of the items designed to assess student's ability to read (R), interpret and comprehend technical materials related to projects they have completed?	<b>R</b>	
• Are one-third of the items designed to assess mathematics (M) related to problems studied in the classroom?	<b>M</b>	
• Are one-third of the items designed to assess understanding of major technical concepts (CT) and written in the language of state and national standards?	<b>CT</b>	
Does your center and/or state require each program to give CT exams, such as industry exams, state skill assessments, NOCTI, etc., to CT completers?		
Does each Career Pathway or program of study area track the percentage of students gaining certification or earning postsecondary credits annually?		
Do all CT programs have industry accreditation and offer students the opportunity to earn certification.		
Does each Career Pathway or program of study area have a local business advisory/steering committee?		
Are students required to produce a product and explain it?		
Are students required to present a report before a panel of judges?		
Does each Career Pathway or program of study area require students to complete a culminating senior project or senior portfolio?		
Each CT course has a mathematics-related textbook.		

## Climate for Continuous Improvement

**Key Condition** — A center director/principal with strong, effective leadership who supports, encourages, and actively participates with the faculty in implementing the key practices. The center sends a consistent message to students, families and the community about what is expected of students, teachers and administrators.

**Key Practice** - Use student assessment, 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 culture, organization, management, curriculum and instruction to advance student learning.

<b>Current Status</b>				
<b>Directions: Place a check in the column under the number that best describes the degree to which the following indicators are in place.</b>				
<b>1-Not Addressed    2-Planned    3-Early Stages of Implementation    4-Full Implementation</b>				
<b>Policies and Practices related to Continuous Improvement:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
The goals and priorities of the center are clear.				
The center maintains a demanding, yet supportive, environment that pushes students to do their best.				
Career/Technology (CT) teachers meet at least annually with teachers from their feeder high schools to discuss expectations, content knowledge and performance standards for students entering their programs of study.				
CT teachers meet at least annually with employers and postsecondary faculty to discuss expectations, content knowledge and performance standards for students completing a program of studies from the Technology Center.				
CT teachers and administrators have active advisory/steering committees for each program area to gain formal feedback that is used in making revisions to the curriculum.				
Teachers in each Career Cluster area meet at least quarterly to examine students' work to determine if it meets state or national standards.				
CT Teachers know the trend in graduation rates.				
CT Teachers use follow-up studies to determine student placement in high wage, high skill, or high demand occupations or professions.				
Center leaders use data at least every semester to continuously evaluate the center's academic and technical programs and activities.				
The director consults with staff members at least annually before making decisions that affect them.				
The director organizes study or focus teams that meet at least monthly to address how to implement the individual components of the campus improvement plan.				
CT teachers are continually learning and seeking new ideas on how to improve student achievement.				
CT teachers and center administrators work as a team to improve student achievement.				
CT teachers use data reports to continually evaluate the center's academic and technical programs and activities (these may include Asset, Compass or Work Keys results and student success on employer certification exams).				
Students' learning is measured through a variety of site-based and state assessments.				

Learning results are disaggregated by ethnicity, gender, socio-economic status, etc.				
Efforts are made to improve the recruitment and retention of CTE teachers, faculty, and career guidance and academic counselors.				
CT Teachers are provided the opportunity for industry experience under education and business partnerships.				
A literacy initiative is supported through the purchasing of publications, including CT library or classroom resources.				

## **Primary *TCTW* Goals for Continuous Improvement**

The mission of *TCTW* is to create a culture of high expectations and continuous improvement in high school. To achieve this mission, *TCTW* has several goals:

- Increase to 85 percent the percentages of career/technical students who meet the *TCTW* reading, mathematics and science performance goals on a National Assessment of Educational Progress (NAEP)-referenced exam.
- Increase the percentages of career/technical students who perform at the Proficient level to at least 50 percent in reading, mathematics and science, as measured by the NAEP-referenced *TCTW* Assessment.
- Increase the percentages of technology center graduates who complete a career/technical concentration and enter employment within the field for which they were prepared and who enter postsecondary studies.
- Increase to 95 percent the percentages of high school students who enter the technology center in grade 11 and graduate on time.
- Advance state and local policies and leadership initiatives that sustain a continuous school improvement effort.
- Work with middle schools to effectively use EPAS assessments to guide students in creating programs of study that consist of courses that prepare students for high school and technology center courses.
- Increase annually the percentage of students leaving the technology center with postsecondary credit or having met standards for postsecondary studies, so they will avoid remedial courses.
- Work with the high schools to annually increase the percentage of students entering technology centers prepared and qualified to earn college credit based on PLAN test scores.
- Increase annually the percentage of technology center high school graduates that pass an improved employers exam. (National licensure, state exam/credential, etc. such as ASE)

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

*High Schools That Work* believes everyone — teachers, high schools, districts, technology centers, local 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 designs. The *TCTW* Key Conditions include the following:

- **A clear, functional mission statement:** Technology centers need a clear, functional mission statement to prepare students for challenging secondary studies and for success in postsecondary education and the workplace.
- **Strong leadership:** Each technology center and home high school needs strong and committed leaders to improve, align and benchmark curricula to high standards, to improve the quality of instruction and to raise student achievement in grades 10 through adulthood. At each technology center, create a leadership team consisting of the campus director, assistant director, counselor and teacher leaders. School and district teams participate annually in a series of leadership development workshops aimed at more fully implementing the *TCTW* design.
- **Plan for continuous improvement:** Technology centers and site leaders need to create an organizational structure and process that ensures continuous involvement with faculty on what to teach, how to teach it, what students are expected to learn, how to assess what they have learned, and how faculty relate to each other, to the students and to the home high school, family and community.
- **Qualified teachers:** Technology center teachers have in-depth knowledge of their program/content areas and of teaching strategies appropriate to students' needs for success. Alternatively certified technology center teachers lacking certification/BS degree in their program/content areas are supported by the technology center to acquire them. The technology centers employ teachers who have program/content area depth and support them in learning how to teach effectively.
- **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.
- **Flexible scheduling:** Technology center superintendents and school boards work with home high schools to adopt flexible schedules enabling students to attend technology centers, earn college credit and certifications, and complete an upgraded academic core.
- **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.

## ***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 expectations by integrating high expectations into classroom practices and giving students frequent feedback.
- **Program of study** — Require each student to complete a plan of study leading them to complete a true concentration of an approved sequence, including at least four career/technical courses and an upgraded academic core leading to better postsecondary preparation for postsecondary studies.
- **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 career and technical studies. School leaders need to:
  - Align career/technical courses to essential state, national, academic and career/technical standards that prepare students for postsecondary studies and careers.
  - Align core academic courses to essential state and national standards that prepare youth for postsecondary studies and careers.
  - Align student assignments, student work and classroom assessments to at least the Proficient-level standards as measured by a NAEP-referenced exam, state assessments and employer recognized exams.
- **Career/technical studies** — Provide more students access to intellectually challenging career/technical studies in high-demand fields that emphasize higher-level mathematics, science, literacy and problem-solving skills needed in the workplace and in further education. School leaders need to:
  - Create new courses blending academics and technical content, using applied teaching methods and new measures of academic and technical proficiency.
  - Develop standards, conditions and agreements for awarding postsecondary credit in high-demand career/technical fields to high school students.
  - Require senior projects with academic, technical and performance standards. (Capstone)
  - Provide students opportunities to work toward a recognized employer certification.
  - Provide students opportunities to earn college credit through dual enrollment in career/technical courses.

- **Work-based learning** — Enable students and their parents to choose from programs that integrate challenging high school career/technical studies and work-based learning and are planned by educators, employers and students.
- **Teachers working together** — Provide teams of teachers from several disciplines the time and support to work together to help students succeed in challenging career/technical and academic studies. Integrate reading, writing and speaking as strategies for learning into all parts of the curriculum and integrate mathematics and science into career/technical classrooms. School leaders need to support
  - career/technical and academic teachers in engaging students regularly in reading books and articles, writing, making presentations, and using high-level reasoning and thinking skills.
  - career/technical, mathematics and science teachers working together to better align and integrate mathematics and science concepts and skills into assignments in career/technical classrooms.
- **Students actively engaged** — Engage students in career/technical and academic classrooms in rigorous and challenging Proficient-level assignments using research-based instructional strategies and technology.
- **Guidance** — Involve students and their parents in a guidance and advisement system that develops positive relationships and ensures completion of a career/technical concentration with an approved sequence of at least four courses and an accelerated program of study. Provide each student with the same mentor throughout high school to assist with setting goals, selecting courses, reviewing the student’s progress and suggesting appropriate interventions as necessary. School leaders need to:
  - Hold a meeting with students, parents and their mentors annually at a technology center to review progress and develop plans for the next year.
  - Develop efforts to educate middle grades parents, school and teacher leaders, and students about the achievement level needed for challenging high school and career/technical 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. School leaders need to:
  - Support all career/technical 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 career/technical students aimed at improving students' work and achievement.
  - Establish a system to analyze student progress on technology center standards and provide remediation focused on career/technical skills to ensure students can pass both hands-on performance and written certification exams.
  - Plan catch-up learning experiences for entering technology center students who are not prepared for career/technical and college-preparatory courses.
  - Work with postsecondary institutions to identify 11th-grade career/technical students not ready for postsecondary study. Develop special strategies to get these students prepared.
- **Culture of continuous improvement** — Use student assessment, 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.

## The *TCTW*-Recommended Curriculum

The centerpiece of *TCTW* is a challenging curriculum focused on preparing high school students for further education and the workplace. To complete the recommended curriculum, each student takes the following:

- at least **four English courses**, with the content and performance standards of college-preparatory English that emphasize reading, writing and presentation skills. Students should read the equivalent of eight books annually, write short papers weekly and write one or more research papers annually. Students revise work until it meets standards.
- at least **four credits in mathematics** including Algebra I, geometry, Algebra II. A fourth higher-level mathematics course or a specially developed mathematics course designed to prepare students for postsecondary studies is strongly recommended. This will help 11th-graders who are unprepared for college-level studies avoid remedial college mathematics.
  - Students completing Algebra I in grade eight will be required to complete three additional years of mathematics.
  - Students take mathematics their senior year.
  - All career/technical courses focus on numeracy and literacy in the language of the technical area.
- at least **three college-preparatory science courses** — biology, chemistry, physics or applied physics, or anatomy/physiology. Students conduct lab experiments and investigative studies; read, critique and discuss three to five books or equivalent articles about scientists, scientific discoveries and how science is used in the real world; keep lab notebooks; make presentations; and complete research projects and written reports. Students design and conduct group or individual projects. *TCTW* recommends that schools using block schedules require four years of science.
- at least **three college-preparatory social studies courses** emphasizing reading and writing to learn. Students will read five to eight books or equivalent articles, write weekly, make presentations, complete research projects, and prepare at least one major research paper in each course.
- at least **one computer course** or demonstrated proficiency in computer technology beyond simple keyboarding, which students should take early in high school to be prepared to use computer-based technical skills in other classes.
- at least **four credits in a concentration** that consists of an approved sequence of career/technical courses. Each student will have a choice from at least four career/technical concentrations in career cluster pathways at school sites, work sites, career/technical centers, postsecondary institutions; and a blended concentration, such as mathematics/science/technology or humanities and business studies. Each concentration will include one or two Advanced Placement (AP), International Baccalaureate (IB) or dual credit courses.

## CONCEPTS OF QUALITY CAREER/TECHNICAL EDUCATION

<b>Old Beliefs</b>		<b>New Beliefs</b>	
Stand-alone programs taught occupational skills for specific jobs.		CTE is part of a total program of academic and technical studies that prepares students for continued learning in work or educational settings.	
Students taught in low-level related academic courses		Students expected to complete high-level academic courses	
All content needed for career taught by a CTE instructor		CTE and academic teachers work as an instructional team	
Programs focused on preparing students for entry-level jobs		Programs focused on preparing students for further learning and a career pathway	
Program success measured by number of students who entered a specific occupation right after high school		Program success measured by number of students who make a successful transition to work, further study or both	
CTE is equated with less able students		CTE is part of the education of many students with a wide range of abilities	
CT educators “accommodate” many students by setting low standards		CT courses have challenging, clearly defined goals that all students are expected to achieve	
CTE is an elective		All students either complete an academic or career major	
Academic educators view CTE as a way to teach occupational skills to students who could not succeed in academic courses		Academic and CT educators work together to help students learn high-level academic and technical concepts	
Emphasis on learning procedural skills and following directions—students dependent on someone else to do the thinking		Emphasis is on helping students become independent learners who can think through problems and find solutions	

Source: A Guide to Preparing a Syllabus: Designing Challenging Vocational Courses, SREB, 1997.

## CTE INSTRUCTIONAL PRACTICES

<b>Old Approach</b>		<b>New Approach</b>	
Instruction focuses on procedural skills		In addition to learning procedural skills, students are given open-ended problems requiring the use of technical, academic, cognitive and personal skills	
CTE teacher handles the majority of the instruction		CTE and academic teachers work together	
Students follow a set of steps to complete assignments		Students are given open-ended assignments that require them to do research and to prepare their own steps for completing them	
Instruction takes place in the classroom or laboratory		Classrooms, laboratories, business and industry, the home and the community are all locations for instruction	
Content is determined by what the instructor likes to teach or the students want to learn		All students must learn a core set of major competencies (knowledge and skills)	
Standards vary according to each student's perceived ability		All students are expected to meet the same high standards	
Assignments do not require students to use academic and thinking skills		The teacher uses activities and problems that require students to integrate and use multiple academic and technical competencies	
The teacher assumes student learning through informal observations or performance and written tests		Assessment is continuous, using a wide variety of techniques that focus on standards	
All assessment is done by the teacher		Students evaluate their own work based on the definition of quality learning that they have developed with their teacher before submitting it for the teacher's review	
Assessments are conducted primarily for assigning grades		The purpose of assessment is to help students and instructors improve, as well as to determine grades based on standards	
Students get one chance to learn the content before they are graded		Students are given multiple opportunities to learn the content. They may be expected to use their own time to meet quality standards	
Students are not expected to work outside of class		Students are expected to work on assigned projects outside of class	

Source: A Guide to Preparing a Syllabus: Designing Challenging Vocational Courses, SREB, 1997.

## ***TCTW* Terms and Definitions**

**Academic Concentration** — A series of courses providing complex, high-level content in mathematics, science, language arts and social studies

**Academic Teachers** — Teachers of mathematics, science, language arts and social studies

**Action Plan** — A tech center or school district plan developed by a committee of teachers, counselors and administrators for implementing the *TCTW* Key Practices

**Applied or Contextual Learning** — Pedagogy that enables students to connect essential concepts and process skills from the academic curriculum to authentic problems, projects or issues that have value to them in a broad field of career/technical studies

**Academic Competencies** — Knowledge and skills in mathematics, science and language arts

**Blended/Career Concentration** — Four credits in college-preparatory English;

four credits in mathematics — including Algebra I, Algebra II, geometry, pre-calculus or a higher-level mathematics course;

four credits in a lab- and inquiry-based science to include a college-preparatory level physical science, biology, and at least two courses selected from chemistry, physics, applied physics or anatomy and physiology;

three credits in college-preparatory social studies;

four credits in a career concentration;

and two credits in related electives

**Career-bound Students** — All students are career-bound. Most technical assistance visits focus on students who are pursuing studies in a career major. These students may plan to work, attend a two year community or technical college, participate in an apprenticeship program or the military or attend a four-year college or university after high school graduation.

**Career Pathway** — Pathways are sub-groupings of occupations/career specialties used as an organizing tool for curriculum design and instruction. Occupations/career specialties are grouped into Pathways based on the fact that they require a set of common knowledge and skills for career success.

**Career/Technical Completer** — A student who completes at least four credits in an approved career/technical area and takes four English, three mathematics and three science courses (At least two courses in mathematics and science should be equivalent to college-preparatory-level content.)

**Career/Technical Studies** — A course sequence that provides challenging content and assignments in a career/technical field of study requiring students to use technical concepts and procedures as well as concepts from the academic curriculum to complete complex projects representing what workers would be expected to do in a broad career field

**College-prep Studies** — A sequence of courses in mathematics, laboratory sciences and language arts that satisfies public, four-year college or university admissions requirements

**Consortium** — The Southern Regional Education Board (SREB) State Career/Technical Education Consortium is a partnership of states, school systems and school sites in 32 states, united in an effort to raise the achievement of career-bound high school students

**Consortium Goals** — To increase the mathematics, science and communication achievement of students and to integrate the basic content of traditional college preparatory studies — English, mathematics and science — with career/technical studies by creating conditions supporting school principals and faculties in carrying out certain key practices

**Cooperative Learning** — Students work as teams to accomplish learning objectives. Group goals and individual accountability are the key practices. Students receive individual and group grades.

**Curriculum Guide** — A guide for each content area made up of state standards by grade level and content (It includes goals for the program, activities and resources.)

## **TCTW Terms and Definitions, con't.**

**Four- or Six-year Education Plan** — A specifically designed sequence of courses for a student during his or her four years of high school and connecting to postsecondary studies. This may be called a plan of study.

**General Studies/General Track** — A collection of high school courses that do not satisfy requirements for admission to a public, four-year college/university or entry into a career field, and normally do not prepare the student for work beyond high school

**High-level Courses or Content** — Courses with high content standards equal to those in a college preparatory curriculum, but taught in ways that motivate students to meet the standards (Instructional techniques include hands-on instruction; applied and contextual learning, cooperative learning and other student-centered instructional methods such as project-based learning.)

**HSTW Site** — A participating school or group of schools in *High Schools That Work*

**Industry Certification** — A credential based on standards set by employers in a particular industry or by skilled workers in a given occupation

**Key Conditions** — A set of conditions created by system leaders to accelerate student achievement

**Key Practices** — A framework enabling centers to focus school and classroom practices on improving the quality of learning for all students, particularly those students who will most likely go to work or enter a community or technical college, the military or a four-year institution upon high school completion

**Low-level Courses** — Courses that lack the high standards and content of the college-preparatory curriculum in language arts, mathematics, science and social studies (They are usually taught in a repetitive, drill, memory-recall format and do not develop high-level thinking and intellectual skills. Examples include basic/general mathematics, basic/general English and general science courses.)

**NAEP** — National Assessment of Educational Progress, the assessment tool used by *HSTW* and *TCTW* to test student achievement in mathematics, science and reading (The assessment includes a questionnaire on students' perceptions about their high school and/or tech center experiences.)

**Occupational Field** — Career/ technical, technical or career field of study

**Pacing Guide** — A guide outlining when state standards, core content and concepts are taught — organized by grade level and content area (The guide also includes the suggested amount of time required to teach each standard.)

**Program of Study** — A sequence of required courses and a range of related courses necessary to provide essential skills and knowledge for further study in a particular career or academic field

**Secondary Teacher Survey** — A survey of administrators, career/technical and academic teachers, and counselors, administered the same year as the *HSTW/TCTW* assessment The teacher survey report reveals perceptions regarding the preparation of school staff essential for making changes in curriculum and instructional practices and suggests needed staff development.

**SREB** —The Southern Regional Education Board

**Staff Development** —Training for teachers, counselors and/or administrators

**Student Follow-up Survey** — A study done on the same cohort of students who took the *HSTW* assessment

(The survey is administered one year after graduation from high school. The purpose of the student follow-up survey is to determine students' perceptions of the usefulness of their academic preparation.)

**TCTW Site** — A participating technology/technical center, career center or shared-time center participating in the *Technology Centers That Work* initiative

